Chapter 14
Human Sustainability in Software Development

Vijanti Ramautar, Sietse Overbeek, and Sergio España

Abstract Human thriving and outsourcing can go hand in hand. This research aims to outline outsourcing approaches for facilitating human thriving by conducting a semi-systematic literature review. We identified three outsourcing approaches that consider corporate social responsibility: impact sourcing, ethical outsourcing, and Fair Trade Software. The aim of this research is to understand the effect of these approaches on marginalized people, and the benefits and challenges for client organizations. The following main conclusions are drawn. First, impact sourcing provides marginalized people with the opportunity to generate an income, to develop themselves professionally, and to build a social circle. In some cases it can generate harmful impacts such as stress. Second, the benefits of impact sourcing for client organizations compared to traditional outsourcing are reduced costs, reduced employee turnover, improved corporate social responsibility, and new chances for growth. Third, ethical outsourcing protects brand image and can improve stakeholder management. However, the extra investments required may reduce competitiveness. Last, Fair Trade Software is a relatively new model, and therefore the benefits and challenges have yet to be assessed. A potential benefit is capacity building by knowledge transfer and network strengthening. Currently some of the biggest challenges are the lack of audits, caused by a lack of resources, and increasing the adoption rate of this outsourcing model.

14.1 Introduction

Human thriving at work is indicated by the joint experience of vitality and learning at work [1]. Despite the fact that traditional outsourcing often attempts to maximize profits while neglecting human needs, many initiatives show that human thriving and outsourcing can go hand in hand. This research aims to outline outsourcing

V. Ramautar (✉) · S. Overbeek · S. España
Department of Information and Computing Sciences, Utrecht University, Utrecht, The Netherlands
e-mail: v.d.ramautar@uu.nl; s.j.overbeek@uu.nl; s.espana@uu.nl

approaches for facilitating human thriving. The global outsourcing market is growing, and increasingly work is outsourced to outsourcing suppliers who employ marginalized people [2]. Marginalized people are defined as disadvantaged individuals who have few opportunities for employment [3]. Examples of marginalized people are those who face discrimination, those who are poor, and those who live in rural areas [4]. The education level can vary from no education to a university diploma [5]. Therefore, labor that requires few skills (e.g., entering data) can be outsourced to marginalized people, as well as labor that requires advanced skills (e.g., developing software) [5].

There are many motivations for companies to outsource. Some potential benefits are cost savings, access to new expertise and skills, and the chance to focus on core capabilities [6]. Outsourcing companies, which are often referred to as "client organizations," might not always reap the benefits of outsourcing. Traditional outsourcing, meaning outsourcing practices that do not consider corporate social responsibility, focuses on maximizing profits. High staff turnover and poor marketing effect caused by negative publicity about working conditions can result in an increase of the total costs. Therefore, maximizing profits by means of traditional outsourcing might not be the best strategy [5]. The inability to reach the desired goal has led to the development of more ethically and socially responsible outsourcing approaches. These new approaches implement corporate social responsibility (CSR). CSR is a theory that emphasizes that companies should implement policies and practices toward the good of society [7]. One of these CSR-considering outsourcing approaches is impact sourcing. It focuses on the training and hiring of marginalized people [3]. Another approach is ethical outsourcing, in which work standards are imposed on the outsourcing supplier (sometimes referred to as the providing organization) [5, 8]. These new business models of outsourcing can provide marginalized people numerous benefits: an increase in income, the chance to learn new skills, and an increase in social status [5]. These benefits can contribute to human thriving at work. Client organizations can benefit from incorporating ethically and socially responsible approaches as well. Impact sourcing allows client organizations to maintain similar quality at reduced cost [9]. This is essential since client organizations, even those interested in impact sourcing, generally base their decision-making regarding outsourcing on quality and cost [3, 5, 6, 9]. Therefore, we can conclude that incorporating CSR in outsourcing can be beneficial to both marginalized people and client organizations. Corporate social responsibility is becoming more important in outsourcing [10], and impact sourcing accounted for 12% of the outsourcing market in 2014 [2]. The value that incorporating CSR in outsourcing can provide to both marginalized people and client organizations, as well as the rise of incorporating CSR in outsourcing, warrants an improved and comprehensive understanding of the different ways in which it can benefit marginalized people and client organizations.

To discover how client organizations can successfully implement corporate social responsibility in their information technology outsourcing while enabling human thriving of marginalized people, a semi-systematic literature review is conducted. First, research and study selection criteria are identified. The study quality is then

assessed by tracing the findings back to the research method. If this cannot be done or if information on the method is lacking, the study is not included. Basic information on the study is collected and the findings from the included research are coded in NVivo. Three main nodes are defined to code the findings: efficacy, benefits, and challenges. Subnodes are created to group related information from different studies. The findings are then grouped and compared. Lastly, overviews of the key findings, the focus of the research (either marginalized people or clients), and the method of publication of the study are created.

The research performed has provided additional proof and detail on the efficacy for marginalized people and the benefits for client organizations. Moreover, we identified that harmful effects on marginalized people can also exist, in contrast to prior literature [11, 12], which states that outsourcing to marginalized people is a win-win situation for both marginalized people and client organizations. We discovered three outsourcing approaches that consider CSR: impact sourcing, ethical outsourcing, and Fair Trade Software. Each approach is elaborated upon by describing the benefits and challenges. Additionally the efficacy of the first approach is discussed. For the remaining two approaches, no literature on the efficacy was found. In the context of this work, efficacy is part of the Soft Systems Methodology (SSM), which offers a structured way to deal with complex problems that involve different stakeholders [13]. The SSM proposes a set of three variables to measure the performance of transformational methods [13], like impact sourcing and ethical outsourcing. The three variables proposed in the SMM are efficacy, which considers whether or not a result is produced by the method; efficiency, which considers the resources required to produce a result; and effectiveness, which considers the degree to which long-term goals are achieved by the method [13]. An initial survey of impact sourcing and ethical outsourcing literature indicated that efficiency and effectiveness are not reported, and thus, these variables are excluded from this research. To understand if there is a business case for client organizations to invest in impact sourcing, ethical outsourcing, or Fair Trade Software, the benefits and challenges for both approaches are determined.

The following sections will discuss the results from the semi-systematic literature review. Section 14.2 identifies the outsourcing approaches that will be discussed throughout this work. In Sect. 14.3 the efficacy, benefits, and challenges related to impact sourcing are stated. The positive and negative aspects of ethical outsourcing are stated in Sect. 14.4. The notion of Fair Trade Software and barriers for applying it can be found in Sect. 14.5. Finally, the limitations, future research, and conclusion are stated in Sect. 14.6.

14.2   Outsourcing Approaches That Consider CSR

Based on the literature found, we identified three outsourcing approaches that consider CSR.

- *Impact sourcing*, sometimes referred to as "social outsourcing" or "developmental outsourcing," is the act of outsourcing to marginalized people who would otherwise have difficulty finding employment [3]. These marginalized people are typically hired and trained by a social enterprise (i.e., an enterprise that has social aims, as well as business aims) [14]. An important type of impact sourcing is rural outsourcing. This is the case when work is outsourced from urban to rural areas [15]. For client organizations outsourcing to rural areas is often cheaper because the average salary in rural labor pools is typically lower than in urban labor pools. This form of impact sourcing increases the employment opportunities for marginalized people in rural areas [16].
- *Ethical outsourcing*, also referred to as "socially responsible outsourcing," occurs when the client organization imposes minimum social and environmental standards on the organization supplying the outsourced service [5, 8]. Successful implementation of such standards ensures compliance to ethical values and prevents unethical practices, such as child labor, slave wages, and workplace abuse. Setting and pursuing these standards mitigates risks associated with a bad reputation as a result of negative CSR [8]. We differentiate between the terms "ethical outsourcing" and "ethical sourcing." This research only discusses ethical outsourcing, since ethical sourcing also encompasses finding suppliers for goods, in which case sourcing relates more to procurement rather than outsourcing.
- *Fair Trade Software* is a form of software development collaboration with teams from both developing and developed countries with a focus on the transfer of knowledge from the teams from developed countries to the teams from developing countries [17, 18]. It is promoted by the Fair Trade Software Foundation (FTSF), a not-for-profit organization whose main value proposition is to ensure that learning and knowledge transfer processes are put in place to stimulate the knowledge economy of developing countries. One study supports this benefit by observing that software development teams in Kenya were able to learn skills such as project management from more experienced, Western software development teams [19].

The following sections deepen into each of the approaches by explaining them more elaborately and analyzing their effects on marginalized people and client organizations.

14.3   Impact Sourcing: Efficacy, Benefits, and Challenges

This section will discuss the efficacy of impact sourcing for marginalized people and the benefits and challenges for client organizations. The results of the literature study on impact sourcing are summarized in Figs. 14.1, 14.2, and 14.3.
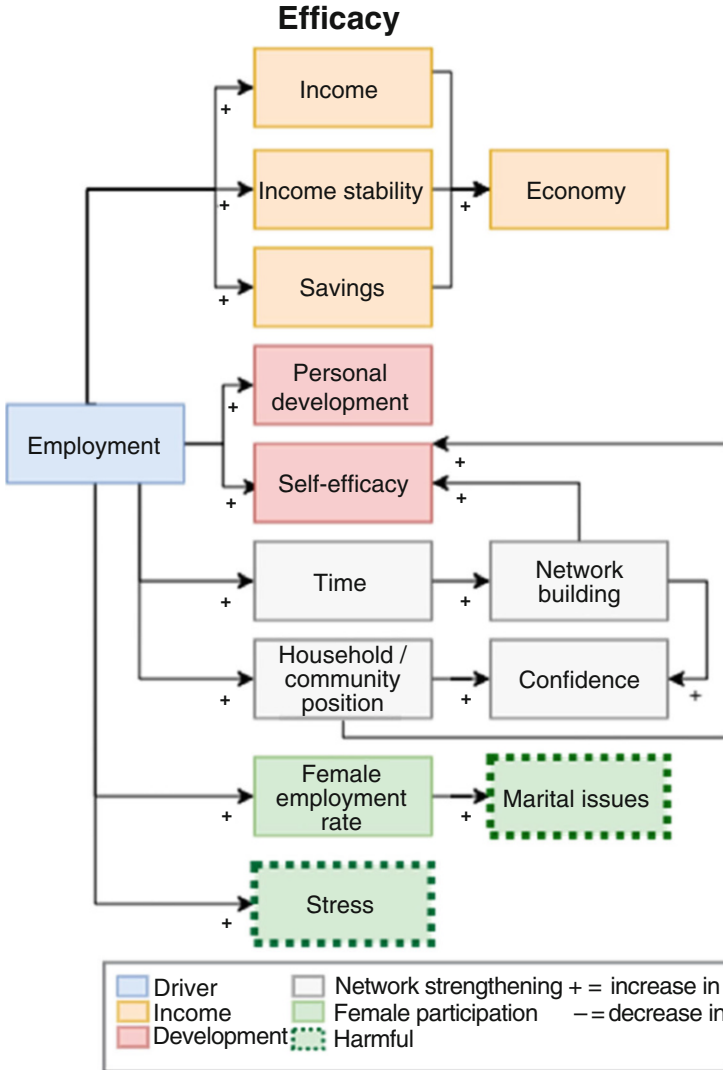
Efficacy

Fig. 14.1   The efficacy of impact sourcing to marginalized people

14.3.1   Efficacy of Impact Sourcing for Marginalized People

Impact sourcing has a positive effect on employment opportunities of marginalized people. Their newfound employment comes with (an increase in) income [14, 20–28], an increase in income stability [14, 23, 28], and an increase in savings [14, 23, 25]. This income is, for instance, spent on education, medical supplies and services, groceries, debt payments, and/or expenses to support family members [23, 24, 27,
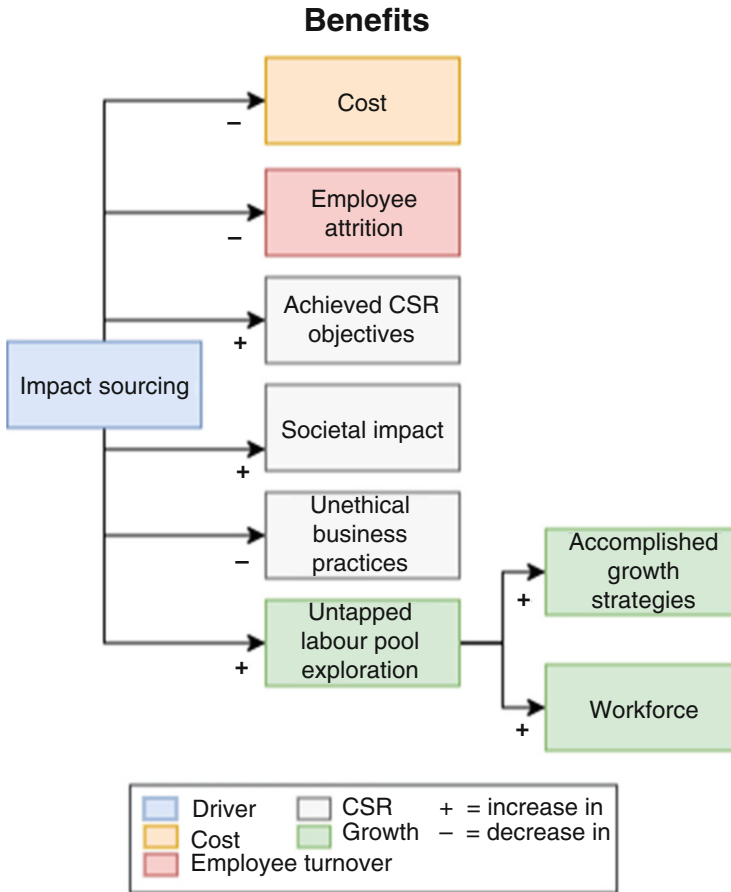
Benefits

Fig. 14.2 The benefits of impact sourcing for client organizations

28]. An additional benefit of an increase in income can be the improvement of the economy within a community [25], since more money can be spent and invested. Another positive effect of impact sourcing is the possibility for marginalized people to develop themselves and build self-efficacy. Employment affects the self-efficacy of marginalized people mainly through job experience and training given on the job [14, 20–24, 26–30]. Examples of training on the job are ICT training [14], language training [26], and soft skills training [14, 29, 31]. This ability to learn on the job contributes to human thriving at work. Apart from training on the job, employees can spend their (increase in) income on education, to develop more skills and improve job prospects [21, 32]. Income in general is also found to positively affect self-efficacy as it creates financial independence [24, 27]. Gill and Tsai performed a study that focused on the employment of traumatized people. These people received special training to help cope with their shame and lack of sense of self-worth
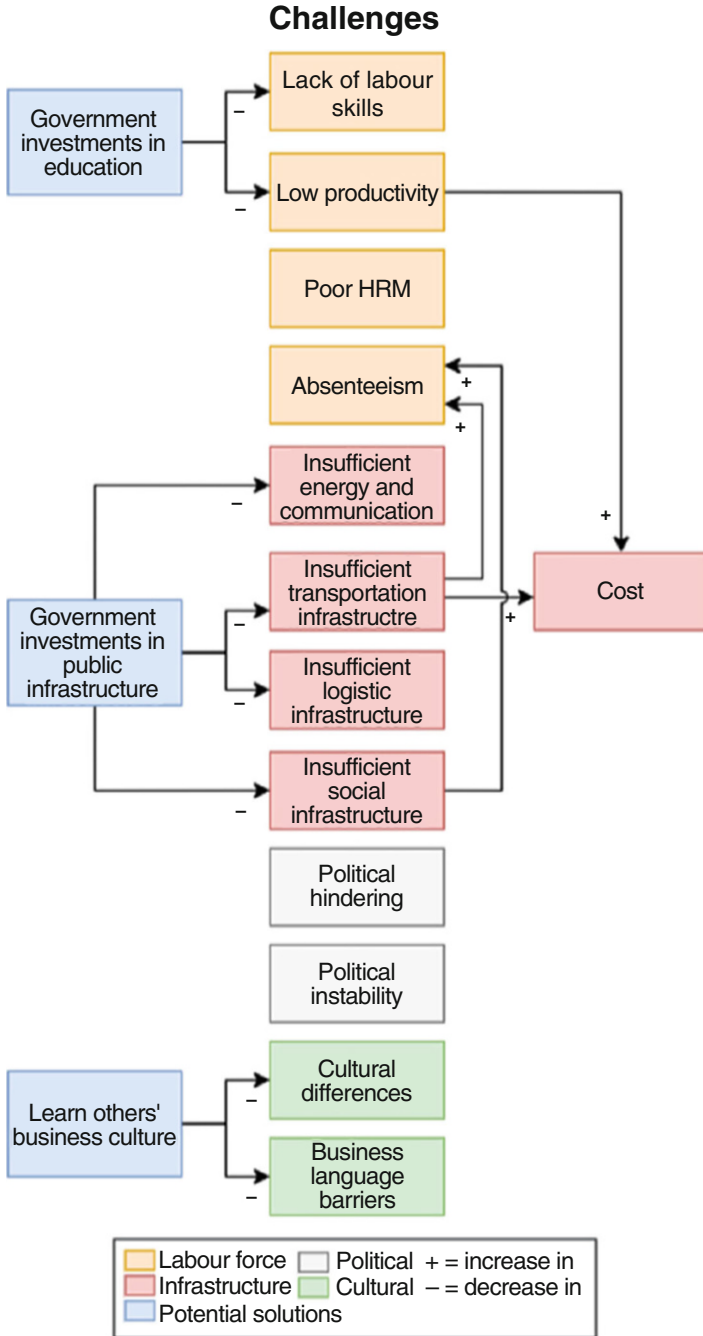
Fig. 14.3 The challenges of impact sourcing for client organizations

[29]. Lacity et al. performed a study focusing on prison inmates. The prison inmates stated that being employed prevented them from performing unlawful conduct [24].

Due to their newly found employment, marginalized people may be perceived as more powerful or receive a more prominent position within their home or community. More convenient working locations can cause them to be able to spend more time at home, and build new social and professional networks or extend their already existing networks. At their job marginalized people are able to form relationships with coworkers, which in turn helps them develop a social and professional network [20, 23, 24, 33]. Within their own household, employees may start to have a more authoritative position due to the fact that they generate income [14, 23, 26]. Employees may also become a source of inspiration or pride for their family members [23, 24] and people within their community [14, 23, 24]. Three studies found that newly formed relationships and improved household positions led to more confidence and self-efficacy [14, 23, 26].

In some cases employment has harmful effects on marginalized people. For instance, when marginalized women start earning more than their husbands or start making money in general, it can lead to marital problems. This is due to the fact that in some cultures men are expected to be the most important or sole income provider [26, 34]. In some cases employment causes an increase in stress and other negative psychological and behavioral effects for marginalized people. This can be caused by inexperience in their new roles and increase in responsibilities. Not being able to effectively communicate these difficulties to management worsens the problems [23, 34, 35]. Sandeep and Ravishankar mention a case where marginalized people struggle with the differences in cultures and values between their own community and the workplace [33]. However, this problem was eventually alleviated by marginalized people introducing their family to their new working environment and to their coworkers. In two cases employees could only work night shifts [34, 35], and this may lead to resistance from other members of the household [35].

The efficacy of impact sourcing to marginalized people is shown in Fig. 14.1. The figure is created based on the factors and effects found in the literature study on the efficacy of impact sourcing. The newly found employment of marginalized people serves as a driver for factors that determine the efficacy. The new job can create an increase in income and saving and the stability thereof. These increases in income-related factors can lead to a stronger economy. The new job can also contribute to personal development and self-efficacy. More convenient working locations can save marginalized people time, which they can spend on building a network. Their new network can help build confidence and contribute to self-efficacy. Their new job can also help marginalized people obtain a position with more authority, which can also contribute to self-efficacy. Employing marginalized women increases the female employment rate; the downside of this is that the number of marital issues can increase due to the employment of women. Another harmful effect can occur when an increase in employment results in an increase in stress.

14.3.2 Benefits of Impact Sourcing for Clients

Impact sourcing can reduce the costs of outsourcing [2, 3, 9, 31, 36, 37]. A study conducted by Everest Group compared the costs between impact sourcing and traditional outsourcing in the same country and found that impact sourcing is cheaper. Cost savings can range wildly from a few percentages up to 40% [2]. This same study compared the costs between an organization impact sourcing and an organization outsourcing to the USA or the UK. The results were cost savings varying from 70% to almost 90% [2]. In impact sourcing, several cost items can turn out to be lower, for example, labor costs, technology costs, operation costs, recruiting costs [9], costs related to employee attrition and turnover, and location costs [2]. When client organizations engage in impact sourcing, outsourcing suppliers were found to have low employee attrition, with four studies citing lower employee attrition in comparison to traditional outsourcing [2, 9, 20, 25]. However, these studies do not provide a clear explanation of why these lower attrition and turnover rates occur. Two studies provide possible explanations: strong family and community ties [2, 25], education opportunities [2], good relationship with the employer [2], and skills matching the job requirements [2].

Impact sourcing can help companies achieve CSR objectives (e.g., increasing supplier diversity) [2, 3, 9] and create a societal impact, since providing work helps increase the livelihood of both marginalized people and the communities they are a part of [2, 5, 9]. It can also prevent unethical business practices, such as employment under poor working conditions [5], and it allows access to a previously untapped labor pool [2, 9]. This can be used to help achieve growth strategies [2, 9] or complement workforce in case of talent shortages [31].

Figure 14.2 shows an overview of the benefits that client organizations can obtain by impact sourcing. In the figure impact sourcing serves as a driver for lower costs, lower employee attrition, more achieved CSR objectives, better societal impact, less unethical business practices, and more access to untapped labor pools. The latter can help organizations accomplish growth strategies and increase their workforce.

14.3.3 Challenges of Impact Sourcing for Clients

Several possible challenges were identified relating to the labor force, namely, not enough skilled labor [9, 15, 23, 30, 38–41], low productivity [15, 39], poor human resource management [15], and absenteeism [3, 23, 42]. Absenteeism can be caused by inadequate transport infrastructure or social services, like day care [3]. Absenteeism can also occur when the income earned from impact sourcing is not the primary source of income [42]. In this case marginalized people may prioritize the activity generation of the primary income over the employment resulting from impact sourcing.

Another challenge can be inadequate public infrastructure. Multiple studies identified energy and telecommunication infrastructure, for instance, electricity and Internet connectivity [9, 15, 30, 38, 43, 44], transportation infrastructure that allows travelling from home to the working place [15, 23, 43, 44], logistic infrastructure (e.g., for importing raw materials) [39], and social infrastructure (e.g., education and day care) [43] as insufficient. This is especially a problem in the more rural areas [43]. When public infrastructure is insufficient, higher costs can be expected to compensate for this deficiency, for example, because transportation has to be provided by the client or impact sourcing service providers (ISSP) [23]. In some places public infrastructure is being improved upon, for instance, in Malaysia [42].

Governments can stimulate or hinder impact sourcing attractiveness. The governments of low-income countries can address challenges for client organizations by enforcing policies. The public infrastructure challenge, for instance, can be reduced if governments invest in electricity supply and telecommunications [15, 23, 25, 42, 45] and government expenditure on education can reduce challenges related to the labor force [23, 43, 45]. Additionally, governments can stimulate outsourcing by providing tax benefits and introducing import/export policies [15, 25]. The political climate can also pose a challenge for client organizations. This is the case when governments fail to stimulate the outsourcing industry and decide to solely focus on regional production or when political instability results in uncertainty regarding the outsourcing industry [9, 15, 46]. Dissimilar cultures and unfamiliarity with the business language [15] or a mutual lack of respect for the different cultures and differences [43] can result in problems. One proposed solution is to exploit any similarities in culture and learn about the other country's business culture [15]. In one study the observation was made that understanding and respecting the culture of the marginalized people played an important role for rural impact sourcers in positioning themselves within the community [25].

Figure 14.3 shows the challenges that client organizations might have to overcome to impact sourcing successfully. It also shows potential solutions for some of these challenges. However, we were not able to identify potential solutions for all challenges. There are challenges related to labor force, infrastructure, politics, and culture. Certain challenges can have a strengthening effect on other challenges. Insufficient transportation and social infrastructure can have a strengthening effect on the level of absenteeism, for instance, because employees cannot go to work by public transport. Insufficient transportation infrastructure can also result in extra costs for the client organizations because they might have to arrange and pay for the transport of their employees.

14.4 Ethical Outsourcing: Benefits and Challenges

In this section the benefits and challenges of ethical outsourcing are discussed. Ethical outsourcing can result in multiple benefits for client organization, such as a positive brand image and better stakeholder interest management. We also discovered that there is a scenario in which ethical outsourcing can result in a competitive disadvantage for client organizations investing in this practice. These benefits and challenges are elaborated upon in the following subsections.

14.4.1 Benefits of Ethical Outsourcing for Clients

Two studies state that ethical outsourcing can create a positive brand image, which subsequently could increase the customer's willingness to purchase products from a particular company [47, 48]. A third study focuses on the absence of ethical outsourcing. In this study some interviewees stated that they would stop purchasing products from a company involved in a scandal [49]. Millennials were interviewed to gain insights on outsourcing scandals concerning *Apple*. Following a scandal, 85% of the millennials said they would continue purchasing Apple products versus 15% saying they would not. The rationale millennials provided to continue using Apple products are product loyalty and lack of competitors with good outsourcing practices. All interviewed millennials stated that they want the unethical practices to be changed though [49]. Two studies discuss the positive effects of ethical outsourcing on stakeholder interest management. Babin and Nicholson argue that newer generations of employees are more concerned with a company's CSR activities [47]. Park and Hollinshead argue that shareholders and senior management have interests in CSR [48].

14.4.2 Challenges of Ethical Outsourcing for Clients

Ang states that client organizations might be hesitant to engage in ethical outsourcing, due to the fact that investments in the provider's CSR capabilities can benefit other clients when they purchase goods and/or services from the same provider. This allows competitors to gain advantage based on the ethical methods of production without additional costs [50]. This scenario is shown in Fig. 14.4. Ang suggests that creating multilateral contract (i.e., contracts that introduce more than two stakeholders) can mitigate the risk of competitive disadvantage caused by ethical sourcing [50].

To summarize, ethical outsourcing can protect the brand, help facilitate stakeholder management, and decrease competitiveness.
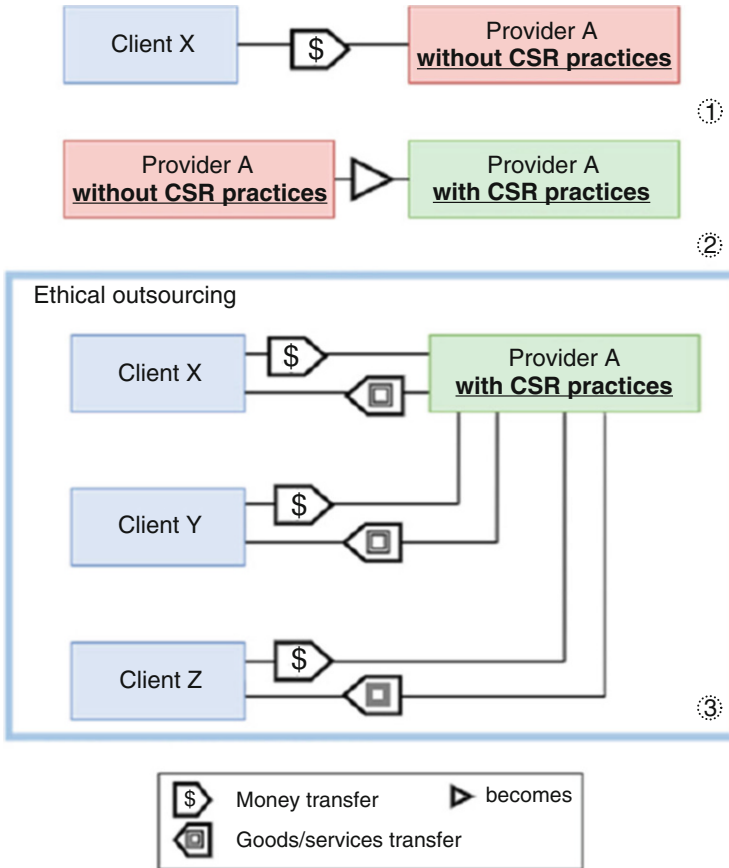
Fig. 14.4 (1) Client X invests in Provider A, so Provider A can incorporate CSR practices. (2) Provider A becomes a provider with CSR practices. (3) Clients X, Y, and Z engage in ethical outsourcing with provider A. Clients Y and Z have not made any CSR-related investments in Provider A, but thanks to the investments made by Client X, they can reap the benefits from ethical outsourcing. Therefore, Clients Y and Z have a competitive advantage over Client X

14.5 Fair Trade Software: Benefits and Challenges

The concept of Fair Trade Software is fairly new, and there are few companies working according to this concept. This section will explain what Fair Trade Software entails, why the model was created, and what the challenges in its application are. Only a few scientific sources discuss Fair Trade Software. We collected more practical insights by means of an interview. Like other Fair Trade models, Fair Trade Software is a movement formed by individuals with a desire to help others in developing countries. Initially formed in 2011 as a form of impact sourcing, over time the model has evolved into its current form. The Fair Trade Software models aim to deliver high-quality and cost-effective software for customers while helping

to grow and develop knowledge economies in developing countries [19]. The latter is done by knowledge transfer from teams in developed countries to teams in developing countries. To reach this goal learning and knowledge transfer processes have to be introduced. To further develop the Fair Trade Software model and to stimulate its use, the Fair Trade Software Foundation (FTSF) was founded. The FTSF creates and sustains partnerships between software companies in developed and developing countries, oversees companies using the model, and engages with other stakeholders.

14.5.1   Benefits of Fair Trade Software

There is limited data available to assess the benefits of Fair Trade Software. One of the potential benefits of the Fair Trade Software model, for teams in developing countries, is capacity building. Capacity building is the process by which individuals and organizations obtain, improve, and retain the skills, knowledge, tools, equipment, and other resources needed to do their jobs competently. It allows individuals and organizations to perform at a greater capacity [51]. Since knowledge and skill transfer lays at the basis of the Fair Trade Software model, this presumably is one of the benefits of the model. No literature was found on the benefits for teams in developed countries, but based on an interview with the founder of the Fair Trade Software Foundation, Andy Haxby, we discovered that the benefits for teams in developed countries are motivation and self-satisfaction for individuals and marketing opportunities and brand enhancement for the companies they work for.

14.5.2   Challenges of Fair Trade Software

To develop Fair Trade Software, teams in developed and developing countries have to work together according to the same development method. A key skill that is often missing in developing countries is knowledge on working Agile. Working Agile has proven to be an effective development method. In a study performed by Serrador and Pinto, empirical evidence was collected to prove the success of working Agile. The results mentioned that in 6% of the 1386 cases, the way of working was completely Agile, and in 65% of the cases, there were some Agile elements. This study shows that the higher the level of Agile working (or another iterative approach), the higher the reported project success. The Agile methodology also scored significantly higher on the overall project success, efficiency, and stakeholder success [52]. Budzier and Flyvbjerg found that Agile methods also improve the delivery time of the product [53].

To ensure IT companies in Kenya can reap the benefits of working Agile, the FTSF transfers their knowledge on Agile project management methods [19]. To successfully execute an Agile project, 25–33% of the project team has to be

experienced with the Agile methodology [54]. Experienced team members deliver the most added value in Agile projects [55]. So, to successfully communicate and develop products, the team from the developing country needs to collaborate with a team member that is experienced in working Agile. Haxby and Lekhi attest this by stating that it is almost impossible to teach individuals about Agile methods without them being immersed into already existing and experienced teams [19].

In addition to the challenges found in literature, we discovered challenges during the interview with Haxby. The most pressing issues Haxby mentioned are the limited resources within the FTSF. The limited time and people power create a challenge to effectively audit organizations. For instance, if the FSTF helps an organization obtain a grant, the means to test and audit the people and companies involved in the project are too weak. Currently, there is no auditing body. Haxby also states that it is difficult to sell Fair Trade Software, mainly because impact sourcing models are hard to sell. Although FTS is different from impact sourcing, they share many of the same difficulties and challenges. The difficulties and challenges are elaborated upon in Sect. 14.3.3. Additionally, some organizations do not wish to be associated with the Fair Trade brand. This is often the case for organizations that operate in industry sectors typically considered socially or environmentally unsustainable (e.g., the petroleum industry), because the FT brand does not fit with their customer demographic. This is an obstacle in making the model more widely adopted. The last issue Haxby mentioned is the ineffectiveness of networks of responsible enterprises, in relation to supporting Fair Trade Software. Networking events for responsible enterprises, which are supposed to result in more support for models such as Fair Trade Software, often attract people who cannot support these models adequately. Fair Trade Software does not yet mobilize the desired partnerships and resources.

14.5.3   Challenges of Cross-Border Development

In addition to the challenges that relate to Fair Trade Software, specifically we identify four major challenges of cross-border development. These challenges apply for Fair Trade Software as well, since it is a specific form of cross-border development. A common problem of cross-border software development is that developers living and working in different locations sometimes use different software [56]. This can be due to the fact that newer versions of software are not accessible in some countries because of export regulations [57]. If the team members in cross-border locations use different data repositories and these repositories are not compatible with each other, this can lead to problems regarding data transfer [58]. Moreover, developers often do not know each other on a personal level. A good personal and working relationship is essential to the success of a project [59]. Insufficient cooperation because of a lack of personal relationships can have adverse consequences for sharing implicit knowledge and reduce motivation [59–61].

When realizing cross-border software development, the difference between time zones, also known as temporal difference, should be taken into account [62]. It is likely that there are differences in time zones and working hours in the countries involved in a project [56, 60, 63]. Communication is one of the success factors of cross-border software development [64], as well as a good product owner [65]. When developers work and live in different time zones, there might be little overlap in the working hours. The FTSF has mitigated this issue by focusing on collaborations between teams in Europe and Africa. This complicates the use of asynchronous communication technologies (e.g., chat and emails) [66, 67], increasing the chance of miscommunication [68, 69]. Moreover, the use of asynchronous communication technologies increases the response time, causing developers to receive a response only the next day [59]. A delay in response can cause a developer to be unable to continue working [70, 71]. When developers decide to continue working without confirmation or response, it could lead to significant errors in the code [63, 72]. The delay can affect the deadline, and this in turn can have consequences and create frustration [59, 71].

Cultural barriers are one of the most common barriers when it comes to outsourcing and cross-border cooperation in software development [71]. Haxby and Lekhi state that cultural aspects complicated teaching Agile methods in Kenya. The Kenyan education system is very competitive: few assignments are performed in teams and competition among students is encouraged. The culture surrounding individual competition makes it difficult to explain the added value of working Agile. Moreover, miscommunication and/or lack of cultural awareness can cause conflicts among peer and management [67].

Lastly, language can pose a barrier for cross-border development. Usually English is the common language in cross-border development. A developer who is not confident in the English language can have the tendency to choose for an asynchronous communication tool, while synchronous communication tools (e.g., video or teleconference) have prevented misunderstandings [60, 73]. Additionally, it is more probable that native English speakers obtain a higher position, due to their linguistic advantage [60]. When non-native English speakers are skilled in the English language, their fluency is often confused with an understanding of idiomatic expressions [67]. If the non-native speaker is unaware of the actual meaning of the expression, it can result in misunderstandings. Another issue related to linguistics is that people might have different interpretations for similar words [74]. In turn, this can lead to misunderstandings about the meaning of an explicit or implicit message.

14.6 Conclusions and Future Research

To create human sustainability when outsourcing, vitality and learning at work are crucial. Impact sourcing and ethical outsourcing can contribute to human sustainability. In Fair Trade Software especially the learning aspect of human sustainability is emphasized. This research puts the different outsourcing approaches that consider

CSR side by side, describing them and compiling what is known about them. This has revealed that the approaches have similarities and differences, and that there is preliminary evidence that they yield a good impact both on marginalized people and on clients.

The literature postulates that outsourcing using a CSR-considering approach is a win-win situation both for marginalized people and for client organizations. For example, marginalized people may see an increase in income and client organizations may see a reduction in costs. Not surprisingly, incorporating CSR practices is becoming more important in outsourcing [10], and impact sourcing even accounted for 12% of the market in 2014 [2]. Fair Trade Software is a novel concept and little scientific research can be found in this field; therefore, some findings related to Fair Trade Software were derived from practice rather than from literature.

The results of this literature study indicate that the efficacy of impact sourcing can be categorized in four ways, namely: it provides an opportunity for employment, it improves personal and self-efficacy, it can improve existing social relationships and result in new ones, and finally a variety of harmful effects can sometimes occur. No literature was found on ethical outsourcing that relates to efficacy; thus, no conclusions can be drawn on how ethical outsourcing affects the lives of marginalized people.

Impact sourcing provides several benefits for client organizations compared to traditional outsourcing: lower costs, lower employee attrition, and turnover. It helps achieve CSR objectives and societal impact, and finally, it helps achieve growth strategies. Additionally, the quality of the products and services delivered through impact sourcing is of similar quality as that of traditional outsourcing. In order to achieve these benefits of impact sourcing, client organizations have to overcome the following four challenges: productivity and quality of labor force, reliability and quality of public infrastructure, unstable or unfavorable political climate, and finally cultural differences, which may lead to conflict. For ethical outsourcing two benefits and one challenge were found, although supported by few studies. Ethical outsourcing can protect brand image and may improve stakeholder management; however, the extra investments required can cause a competitive disadvantage. With regard to ethical outsourcing, no definitive conclusions can be drawn. We can conclude that impact sourcing is considered beneficial for marginalized people and potentially beneficial for client organizations. Fair Trade Software is a relatively new model and there is little scientific literature mentioning the model. Nonetheless, we were able to identify some potential benefits and challenges. A challenge of Fair Trade Software is that it is difficult to teach teams who are unfamiliar with Agile methodologies about working Agile—without them being part of an experienced team. Additionally, cultural differences can cause employees who are unfamiliar with these methodologies to not understand the added value of working according to an Agile methodology. The limited resources of the FTSF cause them to be unable to audit their members, which might threaten the reputation of Fair Trade Software. Another reputation-related issue is that some organizations do not want to be associated with the Fair Trade brand. Therefore, selling Fair Trade Software to make it widely adapted in the software development landscape is challenging. We

also found challenges related to cross-border development in general. The use of different software by teams can cause compatibility issues, differences in time zones can complicate communication, and cultural and linguistic differences can hinder cooperation.

All in all, to discover the efficacy of Fair Trade Software and ethical outsourcing, more research has to be performed. In the case of Fair Trade Software, future research could focus on the impact of Fair Trade Software compared to non-Fair Trade Software, barriers for choosing Fair Trade Software, and methods for guaranteeing that software is produced under fair circumstances. The FTSF is already in the process of engineering a certification method; this could ensure that software is developed according to the Fair Trade Software model. For impact sourcing, more research is necessary on the business case of impact sourcing for client organizations. In particular, more evidence on lower cost benefit and on the observation that quality is similar compared to the output of traditional outsourcing is of importance, since client organizations cited these potential benefits as the most important [3, 5, 6, 9]. Additionally, more research is necessary on ethical outsourcing so that definitive conclusions can be drawn on this research field.

In conclusion, we hope that by contributing a compendium of existing knowledge in the field of impact sourcing, ethical outsourcing, and Fair Trade Software and by delineating new research endeavors, this chapter raises awareness of the importance of these practices as a means to increase the social responsibility of the ICT industry.

References

1. Spreitzer G, Porath CL, Gibson CB (2012) Toward human sustainability: how to enable more thriving at work. Organ Dyn 41(2):155–162
2. Everest Group (2014) The case for impact sourcing. Technical report. Everest Group
3. Carmel E, Lacity MC, Doty A (2016) The impact of impact sourcing: framing a research agenda. In: Socially responsible outsourcing. Springer, pp 16–47
4. Balit S (2007) Communication for isolated and marginalized groups. Commun Sustain Dev:101
5. Heeks R (2013) Information technology impact sourcing. Commun ACM 56(12):22–25
6. Lacity MC, Khan SA, Willcocks LP (2009) A review of the it outsourcing literature: insights for practice. J Strateg Inf Syst 18(3):130–146
7. Matten D, Moon J (2008) "implicit" and "explicit" CSR: a conceptual framework for a comparative understanding of corporate social responsibility. Acad Manag Rev 33(2):404–424
8. Roberts S (2003) Supply chain specific? Understanding the patchy success of ethical sourcing initiatives. J Bus Ethics 44(2-3):159–170
9. Bulloch G, Long J (2012) Exploring the value proposition of impact sourcing. Technical report. Accenture and Rockefeller Foundation
10. Nicholson B, Babin R, Lacity MC (2017) Socially responsible outsourcing: global sourcing with social impact. Springer

11. Accenture (2012) Exploring the value proposition from impact sourcing: the buyer's perspective. Technical report
12. Markets MI (2011) Job creation through building the field of impact sourcing. Technical report, Working Paper
13. Checkland P (2000) Soft systems methodology: a thirty year retrospective. Syst Res Behav Sci 17(S1):S11–S58
14. Heeks R, Arun S (2010) Social outsourcing as a development tool: the impact of outsourcing IT services to women's social enterprises in Kerala. J Int Dev J Dev Stud Assoc 22(4):441–454
15. Abbott P (2013) How can African countries advance their outsourcing industries: an overview of possible approaches. Afr J Inf Syst 5(1):2
16. Lacity MC, Carmel E, Rottman J (2011) Rural outsourcing: delivering ITO and BPO services from remote domestic locations. Computer 44(12):55–62
17. Haxby A, van Weperen E (2014) Creating shared value through Fair Trade Software: putting the principle of shared value creation into practice: "Fair Trade Software (FTS); Where Open Source meets Impact Sourcing". Where Open Source meets Impact Sourcing
18. van Nijen S, Espana S, Overbeek S (2018) A method to certify Fair Trade Software practices. B.S. Thesis, Utrecht University
19. Haxby A, Lekhi R (2017) Building capacity in Kenya's ICT market using cross-border scrum teams. In: International Conference on Social Implications of Computers in Developing Countries. Springer, pp 359–366
20. Burgess A, Ravishankar M, Oshri I (2015) Getting impact sourcing right
21. Chertok M, Hockenstein J (2013) Sourcing change: digital work building bridges to professional life. Innov Technol Govern Global 8(1–2):177–187
22. Harji K, Best H, Essien-Lore E, Troup S (2013) Digital jobs: building skills for the future. The Rockefeller Foundation. rockefellerfoundation.org/blog/digital-jobsbuilding-skills-future
23. Kennedy R, Sheth S, London T, Jhaveri E, Kilibarda L (2013) Impact sourcing. Technical report. The Rockefeller Foundation
24. Lacity MC, Rottman JW, Carmel E (2016) Impact sourcing: employing prison inmates to perform digitally enabled business services. In: Socially responsible outsourcing. Springer, pp 138–163
25. Madon S, Ranjini C (2016) The rural BPO Sector in India: encouraging inclusive growth through entrepreneurship. In: Socially responsible outsourcing. Springer, pp 65–80
26. Madon S, Sharanappa S (2013) Social it outsourcing and development: theorising the linkage. Inf Syst J 23(5):381–399
27. Malik F, Nicholson B, Morgan S (2016) Assessing the social development potential of impact sourcing. In: Socially responsible outsourcing. Springer, pp 97–118
28. McKague K, Morshed S, Rahman H (2013) Reducing poverty by employing young women: Hathay Bunano's scalable model for rural production in Bangladesh (innovations case narrative: Hathay Bunano). Innov Technol Govern Global 8(1–2):69–88
29. Gill M, Cordisco Tsai L (2018) Building core skills among adult survivors of human trafficking in a workplace setting in the Philippines. Int Soc Work:538–544
30. Ravi V, Venkatrama Raju D (2013) Rural business process outsourcing in India-opportunities and challenges. Int J Bus Manag Invent 2(8):40–49
31. Herbert IP (2016) How students can combine earning with learning through flexible business process sourcing: a proposition. Technical report. Loughborough University
32. Tinsley E, Agapitova N (2018) Reaching the last mile: social enterprise business models for inclusive development. World Bank
33. Sandeep M, Ravishankar M (2016) Exploring the "impact" in impact sourcing ventures: a sociology of space perspective. In: Socially responsible outsourcing. Springer, pp 48–64
34. Begum KJA (2016) Challenges and opportunities in BPOs–a case study of women working in Bangalore. Skill India Dev Emerging Debates:125–136
35. Deka SJ, Sebastian N (2017) Globalisation and women employees: a study on women employees in BPO industry in India. PhD thesis, Sikkim University

36. Lester DL, Menefee ML, Pestonjee D (2010) An information technology services outsourcing alternative: a business model. J Bus Entrepreneurship 22(1)
37. Lusero C, Taylor AR, Agrawal V (2013) A case review of Xpanxion: a software quality assurance startup. Int J Manag Cases 15(2)
38. Bell B (2015) Creating regional advantage: the emergence of IT-enabled services in Nairobi and Cape Town. PhD thesis, UC Berkeley
39. Fessehaie J, Morris M (2018) Global value chains and sustainable development goals: what role for trade and industrial policies. Inclusive Econ Transf
40. van Gorp D, Brandt M, Kievit H (2015) Assessment of the attractiveness of Bangladesh as an ICT offshoring destination. China-USA Bus Rev 14(2):67–78
41. Keijser C (2016) 10 Changing geographies of service delivery in South Africa. In: Globalisation and services-driven economic growth: perspectives from the global north and south, p 167
42. Ismail SA, Aman A (2018) Impact sourcing initiatives in Malaysia: an insight through porter's diamond framework. In: State-of-the-art theories and empirical evidence. Springer, pp 197–214
43. Allouh A, Maurer R, Walker F, Wilcox Gwynne RH (2017) Designing a socially sustainable impact sourcing model for integrating immigrants in Sweden
44. Wausi A, Mgendi R, Ngwenyi R (2013) Labour market analysis and business process outsourcing in Kenya: poverty reduction through information and digital employment initiative. University of Nairobi, Nairobi. Unpublished Research Report
45. Avasant (2012) Incentives and opportunities for scaling the "impact sourcing" sector
46. Babin R, Myers P (2015) Social responsibility trends and perceptions in global it outsourcing. In: Proceedings of the Conference on Information Systems Applied Research ISSN, vol 2167, p 1508
47. Babin R, Nicholson B (2009) How green is my outsourcer-environmental responsibility in global it outsourcing. In: ICIS 2009 Proceedings, p 83
48. Park KM, Hollinshead G (2011) Logics and limits in ethical outsourcing and offshoring in the global financial services industry. Compet Chang 15(3):177–195
49. Mboga J (2017) A critical analysis of ethical outsourcing using comparative case examination and eliciting consumer millennials perspectives. Eur J Econ Financ Res
50. Ang YS (2015) Ethical outsourcing and the act of acting together. In: Empowering organizations through corporate social responsibility. IGI Global, pp 113–130
51. Potter C, Brough R (2004) Systemic capacity building: a hierarchy of needs. Health Policy Plan 19(5):336–345
52. Serrador P, Pinto JK (2015) Does Agile work?—A quantitative analysis of agile project success. Int J Proj Manag 33(5):1040–1051
53. Budzier A, Flyvbjerg B (2013) Making sense of the impact and importance of outliers in project management through the use of power laws. In: Proceedings of IRNOP (International Research Network on Organizing by Projects), Oslo, vol 11
54. Dorairaj S, Noble J, Malik P (2012) Knowledge management in distributed Agile software development. In: 2012 Agile Conference. IEEE, pp 64–73
55. Lindvall M, Basili V, Boehm B, Costa P, Dangle K, Shull F, Tesoriero R, Williams L, Zelkowitz M (2002) Empirical findings in Agile methods. In: Conference on extreme programming and agile methods. Springer, pp 197–207
56. Herbsleb JD, Moitra D (2001) Global software development. IEEE Softw 18(2):16–20
57. Battin RD, Crocker R, Kreidler J, Subramanian K (2001) Leveraging resources in global software development. IEEE Softw 18(2):70–77
58. Bhat JM, Gupta M, Murthy SN (2006) Overcoming requirements engineering challenges: lessons from offshore outsourcing. IEEE Softw 23(5):38–44
59. Holmstrom H, Conchúir EÓ, Agerfalk J, Fitzgerald B (2006) Global software development challenges: a case study on temporal, geographical and socio-cultural distance. In: 2006 IEEE International Conference on Global Software Engineering (ICGSE'06). IEEE, pp 3–11
60. Noll J, Beecham S, Richardson I (2011) Global software development and collaboration: barriers and solutions. ACM Inroads 1(3):66–78

61. Phalnikar R, Deshpande V, Joshi S (2009) Applying agile principles for distributed software development. In: 2009 International Conference on Advanced Computer Control. IEEE, pp 535–539
62. Carmel E (1999) Global software teams: collaborating across borders and time zones. Prentice Hall PTR
63. Kiel L (2003) Experiences in distributed development: a case study. In: Proceedings of International Workshop on Global Software Development at ICSE, Oregon, USA
64. Perry DE, Staudenmayer NA, Votta LG (1994) People, organizations, and process improvement. IEEE Softw 11(4):36–45
65. Bass JM, Haxby A (2019) Tailoring product ownership in large-scale agile projects: managing scale, distance, and governance. IEEE Softw 36(2):58–63
66. Hossain E, Bannerman PL, Jeffery DR (2011) Scrum practices in global software development: a research framework. In: International Conference on Product Focused Software Process Improvement. Springer, pp 88–102
67. Rao MT (2004) Key issues for global it sourcing: country and individual factors. Inf Syst Manag 21(3):16–21
68. Carmel E, Agarwal R (2001) Tactical approaches for alleviating distance in global software development. IEEE Softw 18(2):22–29
69. Damian DE, Zowghi D (2002) The impact of stakeholders' geographical distribution on managing requirements in a multi-site organization. In: Proceedings IEEE Joint International Conference on Requirements Engineering. IEEE, pp 319–328
70. Boland D, Fitzgerald B (2004) Transitioning from a co-located to a globally-distributed software development team: a case study at Analog Devices Inc. In: 3rd Workshop on Global Software Development. IET
71. Khan K, Zafar AA, Alnuem MA, Khan H (2012) Investigation of time delay factors in global software development. World Acad Sci Eng Technol 63:380–388
72. Braun A, Dutoit AH, Brügge B (2003) A software architecture for knowledge acquisition and retrieval for global distributed teams. In: International Workshop on Global Software Development, International Conference on Software Engineering, Portland, OR
73. Niinimaki T, Piri A, Lassenius C (2009) Factors affecting audio and text-based communication media choice in global software development projects. In: 2009 Fourth IEEE International Conference on Global Software Engineering. IEEE, pp 153–162
74. Agerfalk PJ, Fitzgerald B, Holmstrom Olsson H, Lings B, Lundell B, Ó Conchúir E (2005) A framework for considering opportunities and threats in distributed software development. In: Proceedings of the International Workshop on Distributed Software Development