

DETERMINANTS OF PARTICIPATION IN COLLABORATIVE FASHION CONSUMPTION – PROVIDER PERSPECTIVES

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Purpose: The development of digital technology is one of the most important factors driving changes in consumer behavior in the 21st century. Today, the sharing economy covers more and more areas of consumers' daily lives. Using online apps to exchange, sell, buy or rent clothes has become one of the most popular ways of consuming fashion around the world. The main objective of this paper is to assess the importance and estimate the impact of the determinants (motives and unpleasant user experience) of providers' engagement in collaborative fashion consumption (CFC).

Design/methodology/approach: The study was conducted using an online survey with 420 respondents in Poland – users (providers) of CFC platforms. A confirmatory factor analysis (CFA) and structural equation model (SEM) was performed using AMOS 21.0 version. The conducted research allowed to identify the importance and to determine the influence of examined factors on attitudes toward CFCs and willingness to use CFC apps in the future.

Findings: Economic motives did not outperform non-economic motives to participate as a provider in CFC. Pragmatic motives were by far the most important determinants of fashion sharing. Environmental factors are an important reason for providers to participate in CFC but they may not be a direct motivation for CC participation. Social motives recorded the lowest average importance rating in the context of participation in CFC. Unpleasant user experience negatively influence both the attitudes toward using CFC apps and the willingness to use them in the future

Research limitations/implications: The research was conducted only on Polish users, so due to cultural differences, the meaning and impact of the motives of using these apps may be different in other countries. Due to the method of sampling and sample size, the results cannot be treated as representative for the population of Polish users of CFC platforms. Future research could include conducting cross-country research and one may attempt to broaden the scope to

include other categories of motives. Future research could also extend the scope of unpleasant user experience with other factors.

Practical implications: The results of research on the motives of users' use of CFC apps should be useful for enterprises in the context of designing activities in the field of marketing communication.

Originality/value: The paper fills a research gap in the field of research on the determinants of Polish providers' engagement in collaborative fashion consumption (CFC).

Keywords: sharing economy, collaborative fashion consumption, CFC, consumer behavior, motives, structural equation model (SEM), sustainable consumption

Category of the paper: research paper.

1. Introduction

Sharing economy, emerging over the past decade, has experienced explosive growth (Acquier et al., 2017). On the one hand, this is due to global changes – increasing environmental awareness (including ecological footprints) and consumer awareness (manifestations of responsible consumption). On the other hand, the reason for such growth is the rise of the digital economy and mobile technologies (Lee, Jung, & Lee, 2021; Brydges et al., 2021). The sharing economy is defined as a peer-to-peer activity through which access to goods and services can be provided, obtained and shared by coordinating the acquisition and distribution of a resource (Belk, 2014; Hamari et al., 2016). At the individual level, the sharing economy is believed to promote sustainable consumption, human interaction, flexible employment, equal access to products and services and economic income. Driven by the sharing economy, the consumption model moves away from purchase towards temporary access (Li et al., 2021). In this sustainable consumption model, the right to use unused resources can be transferred from the owner to other consumers (Hamari et al., 2016). Both owners and consumers obtain a value; owners can earn extra money by sharing unused resources, while consumers can save money by obtaining resources at a low price. With a more democratic approach to business, the sharing economy plays an important role in connecting individuals and communities, encouraging cooperation, and strengthening the position of citizens (Martin, 2016).

The popularity of the sharing economy has significantly increased due to the development of digital platforms. By creating a two-sided marketplace, digital platforms connect consumers seeking resources with resource owners (Guo et al., 2019). The sharing economy in recent years has given rise to many new concepts used in sharing resources (Jin and Chen, 2020; Brydges, 2020). Thanks to the rapid development of digitization, the sharing economy is covering more and more industries (Arrigo, 2022). It has gone beyond transportation (e.g., Uber and DiDi), hotel industry (e.g., Airbnb, Couchsurfing), education (e.g., Thinkdoor), knowledge

(e.g., XBJ.com), and healthcare (e.g., AliHealth and WeDoctor), eventually reaching the apparel market (Plewnia and Guenther, 2018). Thanks to the popularity of smartphones, the development of mobile technologies, Internet accessibility, and the proliferation of online payment, the sale/purchase/rent/exchange of goods and services has never been so easy and widespread (Muangmee et al., 2021; Kapoor and Vij, 2020). More and more platforms for sustainable consumption of fashion have emerged, and continue to emerge, in the mobile app market. There are apps with thousands or even millions of sustainable fashion consumers around the world, such as Rent the Runway and Lending Luxury (USA), Share Wardrobe (India), Secoo Holdings Limited and Ycloset (China), GlamCorner (Australia), Dress & Go (Brazil), Girls Meet Dress and HURR (UK), Vinted and E-Garderobe.com (Poland) (Lee, Jung and Lee, 2021). These platforms provide a space for sharing products or services. Sutherland and Jarrahi (2018) point out the key roles played by these digital platforms, including generating flexibility, matching providers and consumers of products and services, increasing reach, managing transactions, developing trust and facilitating interpersonal relationships, and building communities.

Digital technology in the 21st century has become the driving force behind the sharing economy. Clothing sharing is based on a coordinating digital platform in which idle resources are effectively redistributed by matching supply and demand. Sort and match functions have therefore become one of the advantages of digital platforms (Sutherland & Jarrahi, 2018), as automatic matching helps reduce transaction costs. In the fashion industry, the sharing economy can refer to activities such as swapping, renting, and reselling, which are methods of gaining access to already existing products instead of buying new ones. At its core, the fashion sharing economy is about fulfilling the original purpose of clothing, which is simply to be worn. When it is shared rather than simply sold and bought, the life cycle of the garment is significantly extended, in line with the concept of a closed-loop economy. One thing to note, however, is the potential downside of developing digital platforms in the clothing sharing economy – sharing economy platforms encourage participants to trade with strangers (Richardson, 2015), which may pose transactional risks. As the sharing economy business grows, institutional flaws such as personal security, loss of property, privacy disclosure, and interest disputes are also gradually revealed (Lu et al., 2016; Yi et al., 2020), which reduces individuals' intentions to participate in the sharing economy. It is also worth noting that fashion platforms are unique in the potential challenges they face given the specific nature of the product itself – clothing. These include hygiene and health risks – associated with the direct contact of clothing with skin; psychological and social risks – associated with social standing, or, lack of trust in the supplier. Some of those challenges have been compounded since the COVID-19 pandemic outbreak (Brydges, 2020).

The development of information technology, primarily the Internet, influences the dynamic development of clothing exchange in the online domain. There are many diverse forms of clothing sharing economy utilizing online relations¹:

- a) Clothing exchange through websites and apps – Nuw and The Dress Change, which operate on a credit system so you can upload as many clothes as you like and use your rewards to "spend" on other clothing products. In Swopped, subscriptions are offered with a limited number of similar items for a set amount per month, while Swap Society sets the minimum price at \$3.99 per item. Big Sister Swap sends consumers a personalized package of "new" clothes in exchange for old ones, and Reshash allows users to submit swap requests for specific items they are looking for.
- b) Websites of nonprofit organizations providing opportunities to obtain clothing for free – Freecycle, Ubrania do oddania (Clothes to Donate), and local Facebook community groups – offer mutual aid by exchanging various items, including clothing.
- c) Platforms that allow consumers to resell clothing, based on online apps – Vinted and ThredUp; for luxury items, Vestiaire Collective. Another option is the Depop app, where many users are provided with the opportunity of direct swapping their favorite clothes, rather than just buying and selling.
- d) Online platforms that allow you to rent clothing on a short-term basis – ByRotation. For men, The Devout was created, where you can get a monthly wardrobe set of five different items, and Seasons is a members-only app for renting designer menswear, with free dry-cleaning included in the price. When it comes to luxury occasion wear, Rent the Runway has the largest selection of clothing rentals on the market and regularly partners with department stores. Wardrobe lets you rent luxury fashion straight from other women's closets.
- e) A platform for reselling previously rented clothing, Onloan showcases a range of designer products – as part of the system, users are allowed to test certain clothing items before making a purchase.
- f) Apps and websites of fashion brands providing product service systems such as repair services, take-back schemes and rental options – (Nuuly – rental of Urban Outfitters, Anthropologie and Free People clothing via subscription – six products for a monthly fee. Mud Jeans – option to lease jeans every month or buy a pair of pants and then exchange them for others and recycle the clothing. Levi's Secondhand offers customers the option to exchange old products for gift cards and then resell the used denim. The brands Eileen Fisher and Filippa K offer to sell through their websites used and altered garments from previous season's collections. Patagonia brand offers clothing restoration and reselling services through its Worn Wear program, which aims to provide a range of services to extend the life of Patagonia products – for example,

¹ Analysis based on information from <https://ecocult.com/>.

it offers items made from recycled waste (ReCrafted collection); outdoor brands such as Arc'Teryx and The North Face also run their own clothing repair and take-back programs extending the life cycle of garments.

2. Theoretical Framework

Sharing economy is the globally spreading phenomenon, and is considered as an integral part of the circular economy (Nguyen and Chuang, 2021). The circular economy (CE) is defined as an industrial system that is restorative or regenerative by intention and design, which uses and reuses natural capital as efficiently as possible, and finds value throughout products' life cycles (McKinsey, 2019; Koszewska, 2020). It also involves the introduction of principles such as sustainable design strategies, zero-waste design, product-life extension, resource recovery, repair and remanufacture services (Boiten et al., 2017). As Koszewska mentioned (2020), the limits of the present linear economy model (take-make-waste) are well illustrated by the textile and clothing sector, an essential consumer goods industry (Koszewska, 2020).

Sharing economy fosters the optimizations of the resources by sharing, reusing, or redistributing idle resources and underused goods and services (Hammari et al., 2016; Shrivastava et al., 2020). The list of resources to be shared between peers across various platforms and companies could be further continued and seems to be growing each day. The main thing that all these sharing economy businesses have in common, is that they use information technology to enable the sharing of resources (Spindeldreher et al., 2018). The main idea of the sharing economy is to realize value from underutilized resources (Lee et al., 2018). This emerging trend is powered by advanced digital technologies and innovative business models, (Lee et al., 2018), thus making collaborative consumption possible (Styven and Mariani, 2020).

As Botsman and Rogers (2010) mention, the sharing economy is also referred to by other terms such as "collaborative economy" (Botsman and Rogers, 2010) and "sharing services" (Andersson et al., 2013) and enables peer-to-peer sharing of resources through the use of information technology (Täuscher and Kietzmann, 2017). Collaborative consumption/collaborative economy is about "creating value out of shared and open resources in ways that balance personal self-interest with the good of the larger community" (Botsman and Rogers, 2010). The most important aspect of the collaborative consumption interest concerns the needs to scrutinize the potential benefit as its environmental potential and efficiency of resources (Armstrong and Park, 2017). Collaborative consumption (CC) and sharing economy (SE) are two of the most popular new forms of consumption within the Web 2.0 context. Awareness and participation in CC have been increasing year after year, and the SE is expected to grow from \$15 billion in 2014 to \$335 billion in 2025 (PWC Report, 2019, Minami et al., 2021).

Belk (2013) makes a clear distinction between marketplace exchanges, gift-giving and sharing, but as mentioned before, Botsman and Rogers (2010) use all these concepts interchangeably, including CC and SE. Having noticed this semantic confusion, Benoit et al. (2017) proposed a theoretical framework using three characteristics that distinguish different possible modes of exchange, i. e., buying, renting, non-ownership/access-based services, CC and sharing or co-owning. The proposed classification is based on the following attributes: (1) the number and type of actors, (2) the nature of the exchange, and (3) the directness of exchange (Benoit et al., 2017). From the literature review it is understood that in SE no monetary compensation takes place in the exchange of goods and services (Belk, 2007); on the other hand, in CC, there is monetary compensation involved (Benoit et al., 2017). Minami et al. (2021) contended that the expansion of digital technology resulted in two changes to the traditional format of SE: a) besides individuals, SE based businesses can now involve digital platforms and platform providers but, differently from CC, those are not-for-profit; and b) sharing can now take place on a global scale, not being confined to individuals' neighborhoods (Minami et al., 2021). To sum up:

- sharing economy consists of the practice of using and sharing products or services between two or more individuals with the support of the Web 2.0, and that does not involve any form of material compensation. The exchange typically takes place locally, between members of a community, but as a result of technology development, it can also occur between individuals in different neighborhoods or even countries;
- collaborative consumption consists of the practice of using and sharing products or services with the support of the Web 2.0 and between a platform provider, a peer service provider and a customer (user) – three-way exchange – in exchange for monetary compensation. There is no transfer of ownership, and the exchange can take place locally in the community or neighborhood where the involved peers live or work (Minari et al., 2021).

The definitions connected to CC and SE are presented in Table 1.

Table 1.
Concepts of SE and CC

Author	Concept	Definition
Belk (2007)	Sharing economy	Sharing as the act and process of distributing what is ours to others for their own use as well as the act and process of receiving something from others for our own use.
Bardhi and Eckhardt (2012)	Access-based consumption	Transaction that may be market-mediated in which no transfer of ownership takes place.
Belk (2013)	Sharing economy Collaborative consumption	Collaborative Consumption involves coordinating the acquisition and distribution of a resource for a fee or other compensation. This definition excludes sharing activities, in which there is no compensation involved.

Cont. table 1

Botsman (2013)	Sharing and collaborative consumption	Collaborative consumption is "an economic model based on sharing, swapping, trading, or renting products and services, enabling access over ownership". Sharing economy is "an economic model based on sharing underutilized assets from spaces to skills to items for monetary or non-monetary benefits. It is currently largely talked about in relation to P2P marketplaces but equal opportunity lies in the B2C models".
Scaraboto (2015)	Hybrid-economy	Hybrid-economy is the coexistence of multiple modes of exchange, guided by the logic of market-based exchange, sharing, gift-giving and others.
Hamari, Sjöklint and Ukkonen (2015)	Sharing and collaborative consumption	Collaborative consumption is the peer-to-peer-based activity of obtaining, giving or sharing the access to goods and services, coordinated through community-based online services. Sharing economy is an emerging economic-technological phenomenon [...], growing consumer awareness, proliferation of collaborative web communities as well as social commerce/sharing.
Dillahunt and Malone (2015) Henten and Windekilde (2016) Täuscher and Kietzmann (2017)	Sharing economy	The main value proposition of sharing economy businesses is to enable the use of underutilized resources.
Bocker and Meelen (2017)	Sharing economy	Sharing economy as "consumer granting each other temporary access to their under-utilized physical assets ('idle resources'), possibly for money".
Benoit et al. (2017)	Sharing and collaborative consumption	Sharing as an exchange between two or more individuals, with no ownership transfer, but usually with a shared ownership. No mediation through market, but by social mechanisms. Collaborative consumption as a three-way exchange among a platform provider, peer service provider and the customer. There is no transfer of ownership, but use of an underutilized asset for an agreed (short) period. It is mediated through market mechanisms.
Torrent-Sellens (2019)	Collaborative behavior and the sharing economy	Collaborative consumption as "the new form of mass sharing between and among people, principally through peer-to-peer (P2P) digital platforms".

Source: own study based on (Minami et al., 2021).

Fashion is one of the **industries** that has the most negative impact on the environment (Pal and Gander, 2018; Vehmas et al., 2018). While clothing and footwear is the eighth largest category in terms of household expenditure in the European Union (Eurostat, 2018), it is the ranked fourth in terms of its impact on the environment (WRAP, 2017).

There are three powerful innovation trends that will impact the fashion industry in the coming years, all of which are very closely related to the new circular (i.e. closed-loop) economic model (Koszewska, 2020; Walter, 2016):

- digitization of products, their design, manufacturing, distribution and retail processes, consumer/end-user interaction, factories, workplaces and supply chains,
- sustainability, circularity and resource efficiency of materials, processes and overall business operations;

- new business and consumption models based on the sharing of productive resources and final products, servitisation, pay-per-use or subscription models, all moving us towards collaborative or sharing economy.

In recent years, production and consumption of clothes has increased extensively (Nguyen and Chuang, 2021). The dominant business model in the clothing industry takes a linear approach wherein the products have a short life cycle, and limited or no end-of-life recovery (Nielsen and Gwozdz, 2018). The alternative business model is designed to intensify the utilization of clothes and enable sharing activities and collaborative consumption (Bocken et al., 2016). This model provides consumers with an alternative to the common practice of purchasing new, inexpensive, low-quality clothing to use for a short period (Iran et al., 2019). Sharing economy in the clothing sector offers consumers alternative fashion consumption options such as: clothing libraries, fashion rental, fashion leasing, swapping market, online reselling platforms, incentivized take-back services, traditional repair services and repair services in-store (Nielsen and Gwozdz, 2018; Arrigo, 2021). Collaborative economy in fashion is fostered by digitalization. The complexity of match service providers and users have been reduced due to the Internet. In recent years it has drawn attention again, having new product types and service concepts integrated with digital technology and has fostered consumer adoption (Nguyen and Chuang, 2021). One of the key activities in line with the principles of sustainable development and circular economy on the clothing market is the purchase and sale of second-hand clothing within the framework of sharing economy. The secondhand market for clothes could outgrow fast fashion within the next 10 years (McKinsey, 2019). CC of clothing items via SE platforms thus has the potential to play an important role in achieving sustainability goals (Lang and Joyner Armstrong, 2018).

In the fashion retail industry, examples of entrepreneurial initiatives that adapt the concept of sharing and collaborative consumption to the fashion context, by providing clothing and luxury item reselling, renting or swapping, have raised rapidly before the emergence of coronavirus disease in 2019 (COVID-19) (Adam et al., 2018); ThredUp, 2020), due to the diffusion of digital platforms (Trabucchi and Buganza, 2020). Collaborative fashion consumption concerns people sharing and collaborating to meet specific needs (Camacho-Otero et al., 2019; Stal and Jansson, 2017; Pedersen and Netter, 2015). With the advent of information technology, collaborative fashion consumption forms have evolved from physical and local marketplaces to global online communities with larger economic, environmental and social effects (Botsam and Rogers, 2010). Iran and Schrader (2017) defined Collaborative Fashion Consumption as a consumption trend "in which consumers, instead of buying new fashion products, have access to already existing garments either through alternative opportunities to acquire individual ownership (gifting, swapping, or second hand) or by using options for fashion products owned by others (sharing, lending, renting, or leasing)". Collaborative fashion consumption is generally studied alongside sharing economy (Belk, 2014), prosumption (Ritzer and Jurgenson, 2010), sharing (Belk, 2010; Lamberton and Rose, 2012), access-based

consumption (Bardhi and Eckhardt, 2012) or connected consumption (Schor and Fitzmaurice, 2015). Even though all of these concepts promote alternative consumption patterns, they are characterized by minor differences. For instance, in connected consumption the emphasis is put on the social aspects of the sharing economy, the term prosumption assumes an active role of consumers and promotes their integration in the process of making the products. Access-based consumption promote the idea of ownerless consumption as used fashion items are transferred to the next consumer (for instance, in a clothing-swapping event). The different forms of CFC (e.g. gifting, swapping, or second hand, sharing, lending, renting, or leasing) can be broadly categorized into two types: peer-to-peer (P2P) and business-to-consumer (B2C) (Iran and Schrader, 2017). For instance, swapping parties can be organized by the consumers themselves (P2P), or they can be organized by an organization (B2C). Various B2C and P2P forms of the CFC are differently accepted and practiced by consumers.

3. Hypotheses Development and conceptual model

Along with the growing popularity of solutions related to the broadly understood sharing economy, the interest of researchers on the topic of users motivation to participate in it has also increased (e.g. Perlacia et al., 2017; Benoit et al., 2017; Bucher et al., 2016; Hamari et al., 2016; Ertz et al., 2016; Angelovska et al., 2020; Bellotti et al., 2015; Grybaitė & Stankevičienė, 2016). Many studies were devoted to providers' motivation to share their resources in various types of P2P sharing - mainly car/ride sharing platforms (Raza et al., 2021; Jiang et al., 2021; Hawlitschek et al., 2016; Wilhelms et al., 2017; Angelovska et al., 2021) and accommodation sharing platforms (e.g. Sung et al., 2018; Ikkala & Lampinen, 2015; Lang et al., 2022; Bremser & Wüst, 2021; Möhlmann, 2015; Urbonavicius & Sezer 2019; Hawlitschek et al., 2016; Angelovska et al., 2021; Kim et al., 2018). Less attention has yet been paid to recognizing the main motivators for resource providers for using online fashion sharing platforms for swapping and reselling clothing (e.g. Netter et al. 2019; Armstrong & Park, 2020; Philip et al., 2019; Matthews & Hodges, 2016). Using online clothing swapping and reselling platforms is a form of sustainable product (clothing) disposal; therefore, in order to recognize the motives for using these types of platforms, the findings of studies on the motives behind the usage of clothing disposal forms (e.g. Soyer & Dittrich, 2021; Lai & Chang, 2020; Joung & Park-Poaps, 2013) were also analysed.

Notable differences have been observed in the motivations for sharing between sectors, which indicates that sharing economy is not one coherent phenomenon (Böcker & Meelen, 2017). Furthermore, participation in the sharing economy is of course country-specific, e.g. the Urbonavicius & Sezer (2019) cross-country research has shown the differences in motivations of the Turks and Lithuanians to participate in C2C accommodation platforms as

providers, hence the need to conduct research in individual countries. While there are many potential motives for engagement in sharing economy (e.g. Hawlitschek, et al. (2016) have listed 24 of them) based on the literature review and given the nature of the sharing domain, this study attempts to investigate the influence of (1) economic (ECO), (2) pragmatic (PRA), (3) sustainability (SUS) and (4) social motives (SOC) on both attitudes toward using collaborative fashion consumption apps/platforms and the willingness to use them in the future. We also attempt to investigate the role of (negative) unpleasant user experience (UUX) on attitude towards CFC platforms and the willingness to use them in the future.

3.1. Economic motives

Participation in CC as a provider is very often related to potential economic benefits. While many studies were conducted on the influence of economic motives on participation in CC as a provider, the overall findings are ambiguous. Economic motives can exert a strongly significant effect on attitudes towards sharing (Bucher et al, 2016) and can be one of the leading factors for using CC platforms (Grybaitė & Stankevičienė, 2016). In a study focused on motivations for the use of peer-to-peer services Bellotti et al. (2015) reported that user-providers are highly motivated by payments. The research of Hamari et al. (2016) has shown that economic benefits do not positively influence attitude towards CC, but they positively influence behavioral intentions to participate in CC. On the one hand, some studies suggest that economic motives outperform non-economic motives to participate as a provider in the sharing economy (accommodation and transportation C2C platforms) (Angelovska et al., 2021). On the other hand, research findings indicate that financial motives inversely predict consumers' participation in the sharing economy as a provider (Angelovska et al., 2020). In a cross-country study, monetary motives positively influence the intention to provide accommodation in Turkey, however its influence on intentions in Lithuania was not significant (Urbonavicius & Sezer, 2019). Economic benefits seem to positively affect the provider's intention to engage (Wilhelms et al., 2017; Raza et al., 2021) and continue to participate (Jiang et al., 2021) in peer-to-peer ride-sharing services. In the case of C2C accommodation sharing platforms' financial benefits seem to be the initial drive of becoming a provider (Ikkala & Lampinen, 2015; Lang' et al., 2022) and they positively impact provider attitudes to supply CC platform (Sung et al., 2018). When it comes to using mobile-enabled fashion redistribution (reselling and swapping) platforms, sellers use them to earn money online or recoup value for unused or under-used clothing (Armstrong & Park, 2020).

Based on a review of past research, the authors propose the following hypotheses.

Hypothesis 1a (H1a). Economic motives positively influence the attitudes toward using CFC apps/platforms.

Hypothesis 1b (H1b). Economic motives positively influence the willingness to use CFC apps in the future.

3.2. Pragmatic motives

Pragmatism understood as the opportunity to (e.g.): dispose of items that are no longer used, no longer have to maintain under-used items, free up space, the possibility of being able to free up space in an intelligent manner and being able to easily dispose of items that are no longer of value, seems to be an important motive for engaging in collaborative consumption (Ertz et al., 2016). As mentioned before, sharing/reselling clothing using online platforms is a sustainable way for item disposal. The intention to donate used clothing was primarily motivated by the need to clean out the closet (Ha-Brookshire & Hodges, 2009). Fashion sharing/reselling is seen as convenient means of disposing items as well as remaining fashionable by cleaning out one's wardrobe from out-of-style or/and no longer needed clothes (Netter and Pedersen, 2019). Studies suggest that consumers can be drawn to the practice of online swapping because of space-saving motivation (Philip et al., 2019). Sellers see online clothing resale (OCR) platforms as a good method to dispose of unwanted goods/downsizing the wardrobe (Armstrong & Park, 2020).

Based on a review of past research, the authors propose the following hypotheses.

Hypothesis 2a (H2a). Pragmatic motives positively influence the attitudes toward using CFC applications/platforms.

Hypothesis 2b (H2b). Pragmatic motives positively influence the willingness to use CFC apps in the future.

3.3. Social motives

Social motives are embodied e.g. in the ability to meet other people that share similar desires (Benoit et al., 2017). Providers can be highly motivated to participate in sharing-economy peer-to-peer services by social connection involved – the desire to build social relationships (Bellotti et al., 2015). The study of Angelovska et al. (2020) suggests that motives like meeting people and social responsibility are significant predictors of participating in sharing economy as a provider. Social motives seem to positively impact providers' attitudes or/and willingness to share their resources in peer-to-peer accommodation and transportation sharing domain (Sung et al., 2018; Urbonavicius & Sezer, 2019; Raza et al., 2021; Jiang et al., 2021; Kim et al., 2018).

When it comes to CFC - swapping can satisfy the need for community and social interaction (Philip et al., 2019). Socializing is an important factor both in in-person clothing swapping, as well as in the online clothing swap environment (Matthews & Hodges, 2016).

Based on a review of past research, the authors propose the following hypotheses.

Hypothesis 3a (H3a). Social motives positively influence the attitudes toward using CFC apps/platforms.

Hypothesis 3b (H3b). Social motives positively influence the willingness to use CFC apps in the future.

3.4. Sustainability motives

Collaborative consumption constitutes a part of ethical consumerism, and participation in it can be seen as a form of sustainable consumer behaviour (Perlacia et al, 2017). Reselling, passing along, renting or donating unwanted/unneeded clothes contributes to the extension of product lifetime, clothing manufacturing reduction and fashion waste (Perlacia et al, 2017; Sarigöllü et al, 2021). It should be emphasized, however, that the results of many studies do not fully confirm the seemingly obvious hypothesis regarding the positive impact of sustainable motives on attitude towards CC and participation in CC or/and choosing a sustainable product disposal method. While research findings by Sung et al. (2018) confirm that sustainability positively impacts provider attitudes towards supplying resources in CC, the study of Jiang et al. (2021) has shown that providers' perceived sustainability does not positively influence attitudes toward sharing economy, but it significantly affects providers' intention to continue participating in peer-to-peer ride-sharing services. According to the study by Hamari et al. (2016), perceived sustainability significantly influences attitude to CC, however it does not positively influence the behavioral intentions to participate in CC. Findings from the study of Raza et al. (2021) indicate that sustainability does not positively affect the provider's intention to engage in peer-to-peer ride-sharing. Research by Sarigöllü et al. (2021) shows that general environmental concern does not significantly influence consumer's method of product disposal (reselling, passing along or donating rather than hoarding). However, waste aversion is found to be positively related to the odds of choosing those three redistribution options. When it comes to clothing, according to Philip et al (2019), swappers are motivated by perceived sustainability benefits of swapping although it may not be a direct motivation for CC participation. In a study by Soyer and Dittrich (2021), their hypothesis stating that motivation type sensation/anticipation (i.e. worrying about the pollution, climate change and importance of sustainable disposal) has a positive effect on sustainable disposal, is not supported. Lai & Chang (2020) indicate, that environmental values were not a significant factor influencing Taiwanese consumers' choices regarding clothing resale. On the other hand, Joung & Park-Poaps (2013) identified that clothing resale behaviour is influenced by environmental concerns.

The literature review findings regarding the impact of sustainability motives on attitudes toward SE/CC and participation in SE/CC are ambiguous, which justifies the need for further research in this area. The authors propose the following hypotheses.

Hypothesis 4a (H4a). Sustainability motives positively influence the attitudes toward using CFC apps/platforms.

Hypothesis 4b (H4b). Sustainability motives positively influence the willingness to use CFC apps in the future.

3.5. Unpleasant user experience

Participation in sharing economy as a consumer or a provider can end in an unpleasant experience, resulting from i.e. an unpleasant interaction between users (Köbis et al. 2021), bad experience with C2C platform's customer service personnel (Sthapit & Björk, 2019) or C2C platform failure/malfunction. In terms of facing discomfort, it should be noticed that providers' profiles are usually more visible (than consumers' ones) which may lead to potential privacy and safety concerns (Köbis et al., 2021). An essential factor of sharing economy is trust between users. Ratings and review systems implemented by C2C platforms, play a key part in trust creation process (Cockayne, 2016). Some studies indicate that providers (i.e. crowdworkers) have a critical attitude towards ratings systems due to the fear of fake reviews (Al-Ani & Stumpp, 2016). It is safe to assume that consumer reviews can be unfair and can undoubtedly be a source of unpleasant experience for providers.

Hypothesis 5a (H5a). Unpleasant user experience negatively influences the attitudes toward using CFC apps/platforms.

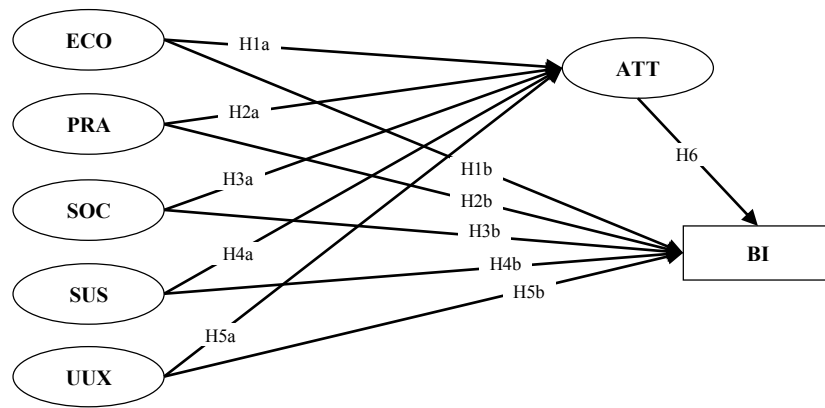
Hypothesis 5b (H5b). Unpleasant user experience negatively influences the willingness to use CFC apps in the future.

3.6. Attitude

Based on the theory of planned behaviour (TBP) (Ajzen, 1991), the attitude toward the behaviour is one of the major determinants of individual's intention to perform the behaviour. This theory is supported by prior study findings on the influence of attitude toward sharing on sharing intentions in various sharing domains. According to Hamari's et al. (2016) study, positive attitude towards CC positively influences behavioural intention to participate in CC. Study by Becker-Leifhold (2018) shows that the more positive the attitude toward clothing rental, the stronger the intention to engage in this activity in the future. Study by Sung et al. (2018) found that provider's attitude toward Airbnb affects the intention to use this platform. Attitudes toward the sharing economy significantly affect providers' intention to continuously participate in peer-to-peer ride-sharing services (Jiang et al., 2021). Based on a review of past research, the authors assume that the attitude toward CFC positively affects behavioral intention, and propose the following hypothesis.

Hypothesis 6 (H6). The attitudes toward using CFC apps/platforms positively influence the willingness to use them in the future.

The following conceptual research model is proposed (Figure 1).



Constructs: Motives: **ECO** – economic; **PRA** – pragmatic; **SOC** – social; **SUS** – sustainability | **UUX** – unpleasant user experience | **ATT** – attitude towards using CFC (collaborative fashion consumption) apps/platforms | **BI** – behavior intention | **ATT** – attitude.

Figure 1. Proposed theoretical model. Source: own research

4. Materials and Method

The data was collected through an online research panel (Nationwide Research Panel Ariadna) with the use of an online survey in 2021 on a total of 420 Polish respondents. The dataset was created with IBM SPSS 27. A confirmatory factor analysis (CFA) and structural equation model (SEM) was performed using AMOS 21.0 version. Based on prior studies, a multi-item measurement scale was developed to measure motives, user experience and attitude. Economic motives were measured with three items, pragmatic motives with two items, social motives with four items, sustainability motives with four items, user experience with five items, attitude with four items and behaviour intention with one item. All items were measured utilizing a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

The selection of the research sample was carried out by the quota method (selection criteria: sex, age and place of residence). The structure of the research sample is presented in Table 2.

Table 2.
Structure of the research sample

	Frequency	%
Sex		
male	213	50.7
female	207	49.3
Age		
18-24 years	57	13.6
25-34 years	94	22.4
35-44 years	77	18.3
45-54 years	76	18.1
55-64 years	76	18.1
65 years or more	40	9.5

Cont. table 2

Place of residence		
village	155	36.9
small city (to 20 000 residents)	59	14.0
medium city (from 20 000 to 99 000 residents)	86	20.5
big city (from 100 000 to 500 000 residents)	72	17.1
very big city (above 500 000 residents)	48	11.4
Number of household members		
1	32	7.6
2	95	22.6
3	123	29.3
4	107	25.5
5 or more	63	15.0

Source: own research.

5. Results

5.1. Measurement Model

Table 3 shows the results of confirmatory factor analysis (CFA) including factor loadings and descriptive statistics. As for the components for which the mean values are above 3, the motives to participate as a provider in the sharing economy are of relatively high importance – economic (ECO), pragmatic (PRA) and sustainability (SUS). When it comes to social motives (SOC) the mean values are below 3. The attitude of the respondents (ATT) and their unpleasant experiences (UUX) are also of great importance – as for experiences, there is an inverse relation between the role of these experiences and participation as a provider in the sharing economy.

Table 3.
Constructs and Items

Constructs	Items	Loadings	Mean	St. dev.
economic motives (ECO)	ECO1. to have an additional source of income	0.87	3.21	1.11
	ECO2. to improve my material situation	0.91		
	ECO3. because it is a simple way to make money	0.86		
pragmatic motives (PRA)	PRA1. because it is a good way to get rid of things that I do not use anymore	0.89	4.21	0.77
	PRA2. because it is a good way to keep my wardrobe tidy/refresh my wardrobe	0.90		
social motives (SOC)	SOC1. because I want to be part of a group of people with similar interests	0.90	2.77	1.18
	SOC2. to meet new people	0.88		
	SOC3. because they are fashionable	0.91		
	SOC4. so that other people see that I follow the trends	0.89		
sustainability motives (SUS)	SUS1. to conserve energy sources and natural resources necessary for the production of new fashion products	0.90	3.79	0.97
	SUS2. to protect/care for the natural environment	0.92		
	SUS3. to limit excessive consumption	0.92		
	SUS4. to extend the life of the products	0.76		

Cont. table 3

Unpleasant user experience (UUX)	UUX1. there are problems (on the part of delivery companies) with delivering my shipments to customers	0.75	2.41	0.94
		0.81		
	UUX2. frequent failures of services/apps	0.85		
	UUX3. I have frequent contact with unpleasant customers	0.82		
	UUX4. customer ratings are often harmful/unfair	0.82		
	UUX5. buyers often resign and want to return the things ordered from me			
Attitude (ATT)	ATT1. using these apps is wise behaviour	0.83	3.98	0.70
	ATT2. using these apps is something positive	0.89		
	ATT3. using these apps makes a lot of sense	0.89		
	ATT4. using these apps is something good	0.85		

Source: own research.

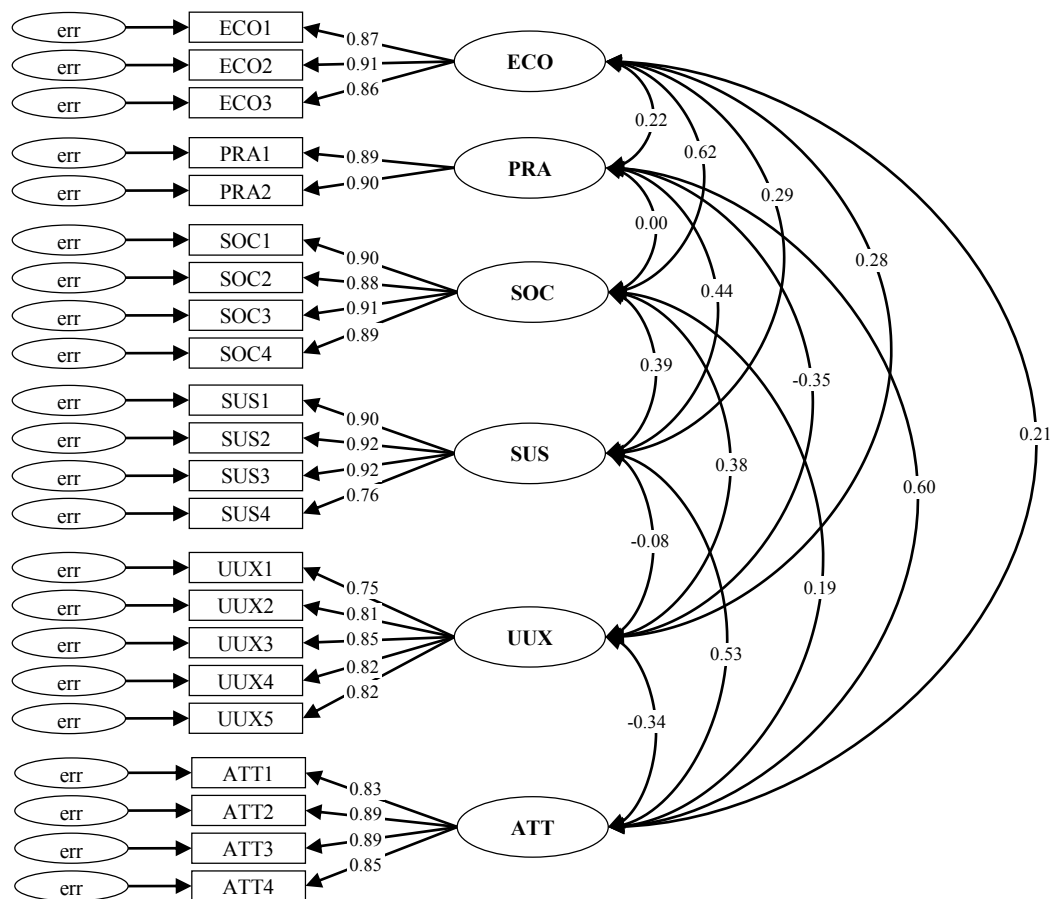
The structural equation model consists of a structural and a measurement part. The structural part of the model describes the theoretical cause-and-effect or correlation between the studied phenomena. The measurement part occurs when the analyzed phenomena are not directly measurable, therefore they are represented in the constructed model by unobservable (latent) variables. This means that before starting the estimation of the structural equation model, its measurement part should be determined and verified. One of the methods of verification of the measurement model is the use of confirmatory factor analysis (Bedyńska, Książek, 2012, pp. 219-223). The reliability of measurement instrument was tested using Confirmatory Factor Analysis (CFA), where the results showed acceptable model fit indices.

Table 4.

Fit indices of CFA model

Measure	Abbr.	Recommended threshold
Chi-square/df (CMIN/DF)	CMIN/DF	<3.0
Comparative Fit Index	CFI	>0.90
The Normed Fit Index	NFI	>0.90
Goodness of fit	GFI	>0.90
Adjusted Goodness of fit	AGFI	>0.80
Root Mean Square Residual	RMR	<0.08
Root Mean-Square Error of Approximation	RMSEA	<0.08

Source: (Ode and Ayavoo, 2020) and own research.



Constructs: Motives: **ECO** – economic; **PRA** – pragmatic; **SOC** – social; **SUS** – sustainability | **UUX** – unpleasant user experience | **ATT** – attitude towards using CFC (collaborative fashion consumption) apps/platforms.
 Fit indices: CMIN/df = 1.945, RMSEA = 0.048, NFI = 0.953, CFI = 0.977, GFI = 0.927, AGFI = 0.904, RMR = 0.043.

Figure 2. Measurement model. Source: own research.

In order to evaluate the overall measurement model and to assess the reliability and validity of the constructs, a confirmatory factor analysis was performed. In the process of evaluating the measurement model, the discriminant and convergent validity was verified. The discriminant validity measures the extent to which the factors intended to measure a specific construct are actually unrelated (Wang and Wang, 2012). For the assessment of discriminant validity, the Fornell and Larcker approach (Fornell and Larcker, 1981) was used – according to this approach, the AVE for each research construct should be higher than the square of the correlation between the construct and other constructs (Ode and Ayavoo, 2020). The diagonal (shown in bold with asterisks – *) elements shown in the table are the squares of multiple correlations between the research variables. As shown in the table, the AVE ranges from 0.66 to 0.80, while the diagonal values range from 0.81 to 0.89, indicating that the diagonal variables are higher than the AVE values (in rows) – suggesting that all constructs have the appropriate discriminant validity. The data presented in the table show that the measurement model has a satisfactory discriminant validity.

Table 4.*Reliability and Validity Measures of the Measurement Model*

CR	AVE	MSV	MaxR(H)	Estimates	Construct	ECO	SOC	SUS	UUX	PRA	ATT
0.91	0.78	0.39	0.92	<0.87, 0.91>	ECO	0.88*					
0.94	0.80	0.39	0.94	<0.88, 0.91>	SOC	0.62	0.89*				
0.93	0.77	0.28	0.94	<0.76, 0.92>	SUS	0.29	0.39	0.88*			
0.90	0.66	0.14	0.91	<0.75, 0.85>	UUX	0.28	0.38	-0.08	0.81*		
0.89	0.79	0.36	0.89	<0.89, 0.90>	PRA	0.22	0.00	0.44	-0.38	0.89*	
0.92	0.75	0.36	0.93	<0.83, 0.89>	ATT	0.21	0.19	0.53	-0.34	0.60	0.87*

Notes:

CR – composite reliability; **AVE** – average variance extracted; **MSV** – maximum shared variance; **Estimates** – standardized factor loadings; **MaxR(H)** – maximum reliability.

Constructs: Motives: **ECO** – economic; **PRA** – pragmatic; **SOC** – social; **SUS** – sustainability | **UUX** – unpleasant user experience | **ATT** – attitude towards using CFC (collaborative fashion consumption) apps/platforms.

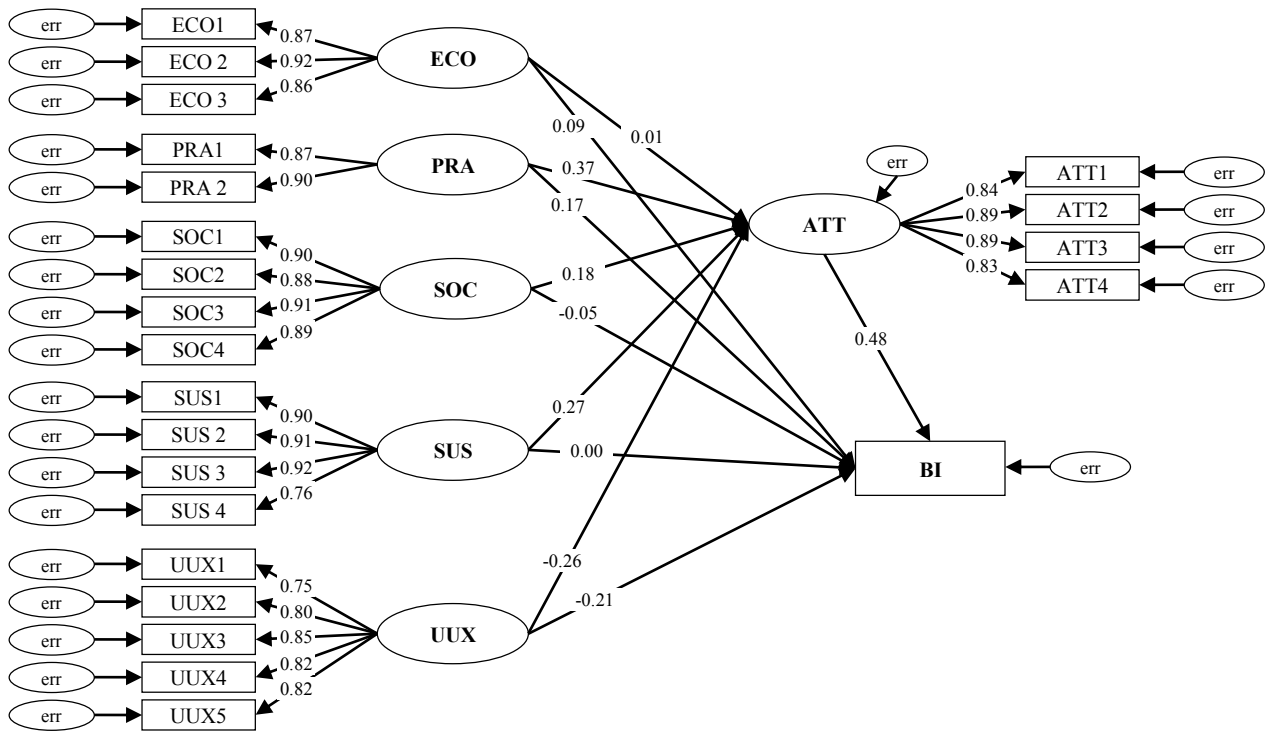
* – squared multiple correlations between the research variables.

Source: own research.

Convergent validity measures the degree to which the factors measuring single constructs are consistent with each other. Convergent validity was assessed using composite reliability (CR) and average variance extracted (AVE). The thresholds adopted in the analysis were such that AVE should be greater than 0.5 (Fornell and Larcker, 1981), factor loadings should be greater than 0.6, and CR should be greater than 0.6 (Hair, Black, Babin and Anderson, 2009; Ahmed, Romeika, Kauliene, Streimikis and Dapkus, 2020; Popa and Dabija, 2019; Szczepańska-Woszczyzna, 2021). On the basis of the obtained results, all three thresholds were reached, which suggests that the reliability and validity of the model and the constructs used are satisfactory.

5.2. Structural Model

Based on the research conducted in the literature review, the results of confirmatory factor analysis (CFA) and the proposed hypothesis, a research model was developed and is graphically illustrated in the Figure below.



Constructs: Motives: **ECO** – economic; **PRA** – pragmatic; **SOC** – social; **SUS** – sustainability | **UUX** – unpleasant user experience | **ATT** – attitude towards using CFC (collaborative fashion consumption) apps/platforms | **BI** – behavior intention | **ATT** – attitude.
 Fit indices: CMIN/df = 1.795, RMSEA = 0.044, NFI = 0.952, CFI = 0.978, GFI = 0.928.

Figure 3. Proposed structural equation model. Source: own research.

All the fit indices of the structural equation model allow us to proceed to the verification of the research hypotheses.

5.3. Testing Hypothesis

The hypothesis test results are shown in Table 5. The results indicate that ATT was influenced by: PRA ($\beta = 0.368, p < 0.001$), SOC ($\beta = 0.178, p = 0.006$), SUS ($\beta = 0.270, p < 0.001$) and UUX ($\beta = -0.255, p < 0.001$). We found that PRA ($\beta = 0.173, p = 0.02$), UUX ($\beta = -0.210, p < 0.001$) and ATT ($\beta = 0.479, p < 0.001$) influenced BI. ECO have been found to be neither significantly associated with ATT, nor with BI. Our findings indicate that SOC and SUS did not significantly affect the BI.

Table 5.
Effects of independent variables on the dependent variable

Relationship	Beta (β)	S.E	CR	p-Value	Hypothesis	Testing Results
ECO → ATT	0.012	0.042	0.192	0.848	H1a	Not Supported
PRA → ATT	0.368	0.054	6.306	***	H2a	Supported
SOC → ATT	0.178	0.039	2.737	0.006	H3a	Supported
SUS → ATT	0.270	0.037	4.958	***	H4a	Supported
UUX → ATT	-0.255	0.038	-4.801	***	H5a	Supported
ECO → BI	0.088	0.046	1.603	0.109	H1b	Not Supported
PRA → BI	0.173	0.063	3.133	0.002	H2b	Supported

Cont. table 5.

SOC	→	BI	-0.053	0.044	-0.895	0.371	H3b	Not Supported
SUS	→	BI	0.001	0.042	0.021	0.983	H4b	Not Supported
UUX	→	BI	-0.210	0.043	-4.248	***	H5b	Supported
ATT	→	BI	0.479	0.070	8.382	***	H6	Supported

Constructs: Motives: **ECO** – economic; **PRA** – pragmatic; **SOC** – social; **SUS** – sustainability | **UUX** – unpleasant user experience | **ATT** – attitude towards using CFC (collaborative fashion consumption) apps/platforms | **BI** – behaviour intention | **ATT** – attitude.
*** *p*-Value is smaller than 0.001.

Source: Own research.

5.4. Discussion

The conducted research allowed to identify the importance and to determine the influence of unpleasant user experience, as well as economic, pragmatic, social and ecological motives on attitudes toward using CFC apps/platforms and willingness to use them in the future.

The results of our study suggest that **economic motives** are not among the most important factors determining the use of CFC platforms as a provider. These conclusions are thus different from the studies on the use of CC platforms (not related to fashion) by Grybaitė & Stankevičienė (2016) or Bellotti et al. (2015). Economic motives did not outperform non-economic motives to participate as a provider in the sharing economy, as in the study conducted by Angelovska et al. (2021) on the users of accommodation and transportation C2C platforms. Interestingly, economic motives did not significantly affect the attitude towards CFC apps, nor the willingness to use them in the future. It should be recalled that overall findings of prior studies in this area are ambiguous, but many studies have shown a positive impact of economic motives on provider behavioral intention to engage and/or to continue to participate in C2C sharing economy platforms (e.g. Hamari et al. 2016; Wilhelms et al., 2017; Raza et al., 2021; Jiang et al., 2021; Ikkala & Lampinen, 2015; Lang et al., 2022). Our results thus confirm that sharing economy is not one coherent phenomenon (Böcker & Meelen, 2017), hence the need for research in different domains of sharing economy.

Regarding the importance and impact of **pragmatic motives** on attitude toward CFC platforms and behavior intention, the results of our study as well as other authors' (e.g. Ertz et al., 2016; Ha-Brookshire & Hodges, 2009; Philip et al., 2019; Armstrong & Park, 2020) confirm the importance of those motives in fashion sharing. Pragmatic motives had a significant influence both on attitude toward CFC platforms and on the intention of using them in the future. Pragmatic motives were by far the most important determinants of fashion sharing (mean = 4,21).

Previous research on **social motives** indicated that they may positively impact providers attitude and desire to share their resources in non-fashion domains (e.g. Sung et al., 2018; Urbonavicius & Sezer, 2019; Raza et al., 2021; Jiang et al., 2021; Kim et al., 2018). Social motivation also seems to play an important role in online and offline clothing swapping (Matthews & Hodges, 2016). Our findings suggest that social motivation has a positive and

significant influence on attitude toward using CFC platforms but it does not have a significant influence on willingness to use them in the future. It is important to note that of all the motive groups, it was social motives that recorded the lowest average importance rating in the context of participation in CFC.

Participating in collaborative consumption is considered to be a form of sustainable consumer behaviour (Perlacia et al, 2017). As with economic motives, also in relation to **sustainability motives**, the findings of prior studies on their impact on attitudes toward SE/CC and participation in SE/CC seem to be ambiguous. Our findings suggest that the environmental motives for participating in CFC as a provider were rated relatively high (mean = 3,79), and they have a positive and significant influence on attitude toward using CFC platforms. In our research, sustainability motives did not significantly influence the willingness to participate in CFC as a provider in the future. According to the declarations of users, environmental factors are an important reason for them to participate in CFC but they may not be a direct motivation for CC participation.

As assumed, **unpleasant user experience negatively** influence both the attitudes toward using CFC apps/platforms and the willingness to use them in the future.

5.5. Limitations and future research

The research has several limitations. First, due to the method of sampling and sample size, the results cannot be treated as representative for the population of Polish users of CFC platforms. It should also be taken into account that due to cultural differences, the meaning and impact of the motives of using these apps may be different in different countries, so it would be a good idea to conduct cross-country research. It should be kept in mind that the spectrum of motives for participation as a provider in SE is extremely wide; therefore, in future research one may attempt to broaden the scope to include other categories of motives. The research concerns one of the forms of sharing economy, but it should be remembered that the determinants of participation in different forms may differ. Thus, it should be remembered that the possibility of inference is limited only to CFC platforms. Despite potential differences in user motivation due to the nature of each form of CC, a determinant that seems to be common to them all is user experience. In our study, we attempted to assess the importance and impact of unpleasant user experience on attitude toward CFC platforms and willingness to use them in the future. An interesting solution would be to compare the importance and impact of this determinant on user (provider) behavior when using other SE domains. The next stage of the research could be to extend the scope of unpleasant user experience with other factors and assess their importance and influence on consumer fundamentals and behavior. Research focused on pleasant user experience is also worth considering. It is also worth exploring the impact of CFC participation determinants on other types of consumer behavior, e.g. consumer engagement. CFC is currently in its development phase in Poland, so it should be assumed that with further increase of its popularity, new types of behaviors will appear among consumers,

e.g. related to co-creating value. It is worth considering conducting comparative research in the following years, which will make it possible to verify the importance and determine the dynamics and direction of change of particular determinants of users' attitudes and behaviors.

6. Conclusions

Collaboration consumption is one of the key economic models in the fashion segment today, engaging both consumers selling and buying clothes/accessories. The results of our research conducted in the group of users-providers showed that despite a relatively high rating of the importance of environmental motives and their (positive) impact on the attitude towards CFC apps, they do not affect the willingness to use them in the future. As for social motives, on the one hand, their influence on the attitude towards CFC was noted, but on the other hand one should notice the low rate of importance and lack of influence on the willingness to use these apps in the future. Economic factors did not positively influence the attitude towards CFC, nor the willingness to use them in the future. Clearly, pragmatic motives are the most important in the context of CFC use and they influence both the attitude and the declaration of future use. We should also emphasize the influence of unpleasant user experience on shaping attitudes and market behavior of the surveyed users. Regardless of the motives of consumers, it should be recognized that CFC is an activity that clearly fits in the philosophy of sustainable consumption as well as the principles of circular economy, so it is advisable to design and implement CFC support solutions, such as mobile applications or dedicated websites.

Acknowledgements

The study was conducted within the research project *Economics in the face of the New Economy* financed within the Regional Initiative for Excellence programme of the Minister of Science and Higher Education of Poland, years 2019-2022, grant no. 004/RID/2018/19, financing 3,000,000 PLN.

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