Report from the EU H2020 Research Project Ps2Share:
Participation, Privacy, and Power in the Sharing Economy

Privacy in the Sharing Economy: European Perspectives

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1. Introduction: Privacy in the European Sharing Economy

This report '**Privacy in the Sharing Economy: European Perspectives**' forms one element of a European Union Horizon 2020 Research Project on the sharing economy: Ps2Share 'Participation, Privacy, and Power in the Sharing Economy'. The study is undertaken within the scope of the European Union's Horizon 2020 research and innovation programme, funded under grant agreement No. 732117 and with the objective (ICT-35) of "Enabling responsible ICT-related research and innovation". This project aims to foster better awareness of the consequences which the sharing economy has on the way people behave, think, interact, and socialize across Europe. Our over-arching objective is to identify key challenges of the sharing economy and improve Europe's digital services through providing recommendations to Europe's institutions. We focus on topics of participation, privacy, and power in the sharing economy.

The initial stage of this Research Project involved a set of three literature reviews of the state of research on three core topics in relation to the sharing economy: participation (Andreotti, Anselmi, Eichhorn, Hoffmann, & Micheli, 2017), privacy (Ranzini, Etter, Lutz, & Vermeulen, 2017), and power (Newlands, Lutz, & Fieseler, 2017a). Also focus groups with 'millennial' sharers and non-sharers were conducted in six European countries. The third step consisted of a large-scale survey of citizens of twelve European countries, the results of which are to be found in the Appendix below, and in the sister reports on participation in the sharing economy (Andreotti, Anselmi, Eichhorn, Hoffmann, Jürss, & Micheli, 2017) and power in the sharing economy (Newlands, Lutz, & Fieseler, 2017b). For this report, we assessed the **privacy concerns** of both users and non-users of sharing economy platforms. Privacy, as a central topic within people's lives and a crucial antecedent of all forms of online participation, represents a focal area for our research into the experiences of Europeans in the sharing economy.

Within the sharing economy, we initially identified three core areas of privacy concerns: platform privacy, peer-to-peer privacy, and offline privacy. Firstly, and similarly to other types of online interaction such as Social Networking Sites, participation in the sharing economy requires potential users to disclose some of their private data to online platforms. This acts as both a prerequisite for access and a potential barrier for entry for those unwilling to share their private information. Secondly, because of the intense interpersonal nature of certain sharing platforms, users might also be confronted with fears around peer-to-peer privacy risks, such as stalking, hacking, and identity theft. Thirdly, and particularly for providers on sharing platforms who share their goods with consumers, further risks could arise from offline interactions, such as the infringement of personal boundaries or damage occurring to shared items.

We therefore approach the privacy concerns of sharing economy users, addressing the differences occurring in comparison to non-users and providing an overview of specific concerns that might affect consumers and providers. Additionally, with the present report, we do not only cover the concerns which users have around their privacy, but also the benefits they derive from participating in the sharing economy and the strategies of information sharing that they put in place to exert control over the data they share with platforms and peers.

Results Highlights:

- **Users of the sharing economy** report on average **lower privacy concerns compared to non-users**. This gap is particularly large for users from countries such as Germany and the Netherlands.

- Respondents from Southern European countries, such as Spain and Portugal, consistently report **higher privacy concerns**. This is true on both the providing and on the consuming side.

- Despite high privacy concerns, **users of the sharing economy** perceive that **their data is treated fairly** by sharing platforms and **perceive that the benefits they receive** from participating **outweigh privacy risks**.

- The **infringement of physical boundaries** is an **important concern for providers** of the sharing economy. **One third of providers** reports feeling **personal attachment** to the shared goods and spaces. Higher attachment to shared goods is correlated to higher privacy concerns.

- Both **providers and consumers** of the sharing economy are **more concerned about platform misuse of their data** than of peer-related risks such as hacking or identity theft. Providers and consumers from Spain, Portugal, and France report the highest concerns.

- Impression management, the strategic sharing of one's personal information to create an online-appearance, is widely employed by users of the sharing economy. For providers, more intensive impression management is associated with higher privacy concerns, which might mean that **strategic self-presentation** is used as **a tool to control the amount and type of private data shared**.

- Both providers and consumers report **high concerns** about **losing control over their online reputation** due to negative reviews or comments by peers. Users with higher privacy concerns are also more likely to be worried about negative reviews.

2. Privacy Perceptions of Users and Non-Users

Individuals who participate in the sharing economy, either as providers or consumers, share their personal data in exchange for access to sharing platforms. This might generate concerns over how such data is used by sharing platforms as well as by other users who have access to the platforms.

The privacy literature generally identifies two broad types of such privacy concerns: institutional misuse of private data (such as insufficient data protection or data being sold to third parties) and peer misuse of private data (such as hacking, stalking, or identity theft). In the case of sharing platforms, such concerns would translate into concerns about misuse by sharing platforms versus concerns about misuse by peer-users of sharing platforms.

We therefore asked respondents to report on their **Peer-Related Concerns** (e.g., "*another user hacking me*", "*identity theft*", and "*another user stalking me*") as well as their **Platform-Related Concerns** (e.g., "*tracking and analyzing my personal data*" and "*selling personal data to a third party*"). With the intent to approach both sides of the *privacy trade-off*, that is, not just the perceived risks of sharing data but also the perceived benefits, we investigated additional variables which could help understand whether users feel satisfied with this exchange. In order to address whether users feel safe disclosing their data to sharing platforms, we asked respondents to rank the platforms' **Fairness of Data Use** (e.g., "*the platform is able to show how it intends to use my personal data*", "*privacy policy is easy to understand*"). To more explicitly understand whether users of the sharing economy feel like their data sharing is justified by a receiving satisfying experience, we asked users to rank their **Perceived Benefits from Participation** (e.g., "*I have benefited from using the sharing platform*", "*the sharing platform has been useful for me in the past*").

In this section, we provide an overview of sharing economy users' and non-users' privacy concerns, as well as some insights on users' privacy trade-offs when participating in the sharing economy.

Users of the Sharing Economy report lower privacy concerns than non-users

As the figure below shows, across all considered countries, users of sharing platforms are on average **less concerned** about their online privacy than non-users. A possible explanation for this difference can be found in the fact that people with lower privacy concerns might be more likely to join a sharing platform than people with higher privacy concerns. The gap between users and non-users appears particularly striking for countries such as Germany (users: 2.58, non-users: 3.28) and the Netherlands (users: 2.79, non-users: 3.22). Sharing economy users in Germany also report the lowest privacy concerns among all respondents. Southern European countries such as Spain (users: 3.56, non-users: 3.90) and Portugal (users: 3.43, non-users: 3.79) report the highest privacy concerns among European respondents. France (users: 3.32, non-users: 3.69) and Ireland (users: 3.25, non-users: 3.59) also report relatively high concerns for both users and non-users. Across the sample, users report a mean of 3.08, lower than that of non-users (3.45).

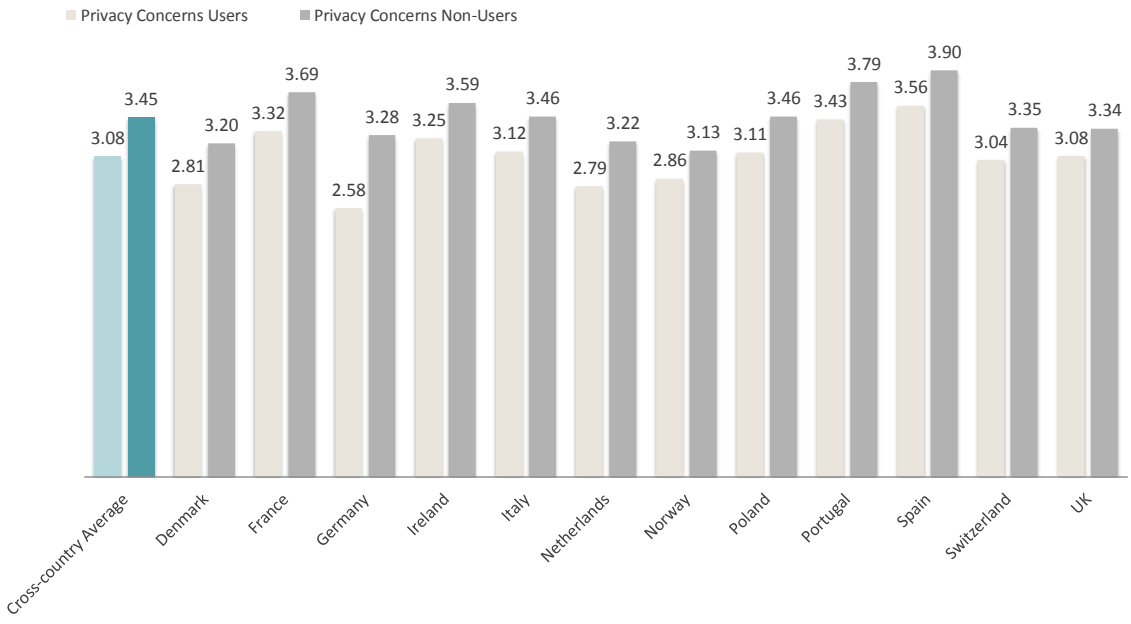


Figure 1: Mean Comparison[1] of Privacy Concerns for Users and Non-Users of the Sharing Economy.

Users of the Sharing Economy are mostly concerned about platform misuse of their data

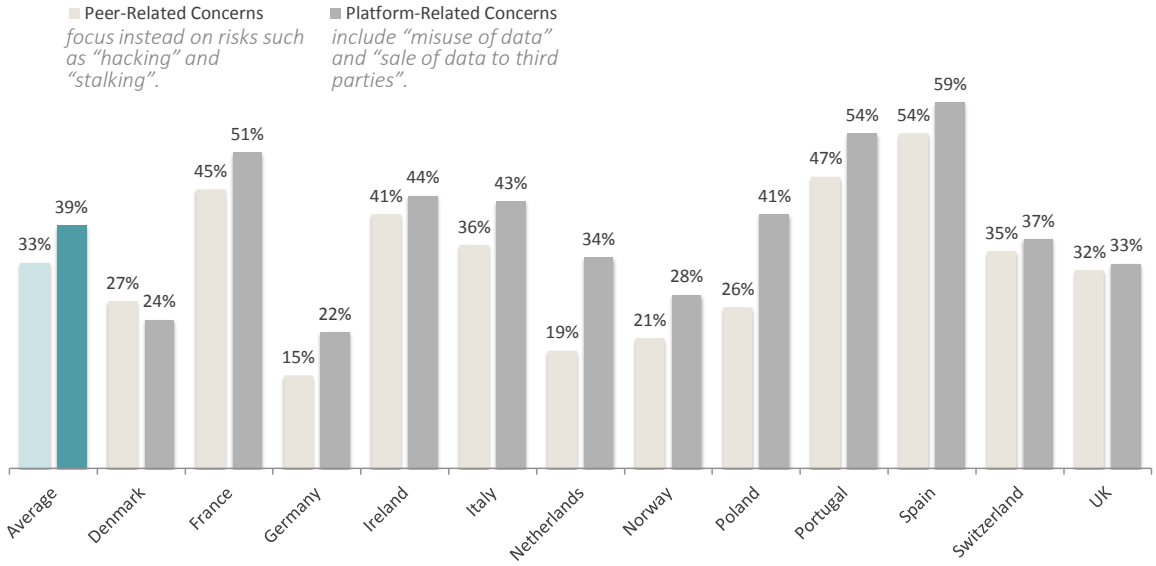


Figure 2: Users reporting "high" or "very high" Peer-Related and Platform-Related Privacy Concerns, by country.

[1] *All measures based on Likert scale (1-5) with 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.*

Sharing platform users generally have **more platform-related concerns** than peer-related concerns. The only exception is respondents from Denmark, who show slightly more peer-related than platform-related concerns (24% platform-related, 27% peer-related). Respondents from countries such as the Netherlands (34% platform-related, 19% peer-related) and Poland (41% platform-related, 26% peer-related) show large gaps between the two measures, suggesting that concerns regarding how platforms handle user data are perceived as substantially higher than concerns directed at other users.

Much like in the case of the aggregated measure reported in Figure 1, there appears to be substantial differences in the degree of concern across countries. Again, users from Germany have the lowest privacy concerns. This remains valid with respect to both peers and platforms (respectively 15% and 22% of users report high concerns). Spanish users report the highest degree of concern (54% of users report high peer-related concerns, 59% platform-related).

Non-users of the Sharing Economy are mostly concerned about hacking, stalking, and identity theft

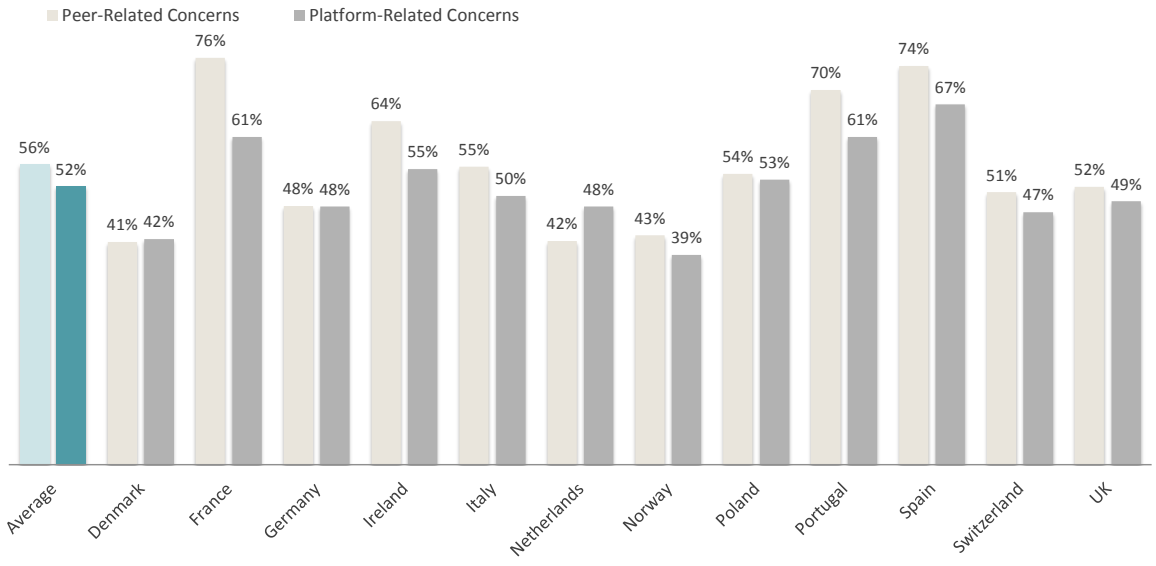


Figure 3: Non-Users reporting "high" or "very high" Peer-Related and Platform-Related Privacy Concerns, by country.

Strikingly, for non-users of the sharing economy, privacy concerns appear to be reversed in comparison to privacy concerns of users. Almost all sharing economy non-users from our sample report more peer-related than platform-related privacy concerns, such as hacking, identity theft, or stalking. Again, the only exception is Denmark, which reports slightly more platform-related concerns than peer related concerns (respectively 4% and 41%). This reversed pattern is an interesting result

as it suggests that the respondents' decisions not to participate in the sharing economy might depend much more on privacy concerns, with respect to peer-users, than on those emerging from using a sharing platform.

Non-users from France report the highest peer-related concerns (76%) as well as the widest gap with platform-related fears (61%). Similar to the findings for users, Spanish and Portuguese non-users report the highest concerns related to misuse of private data by platforms (67% and 61% respectively) and peers (74% and 70% respectively). The lowest values for concerns are associated with non-users from Germany (platforms: 48%, peers: 48%) and from the Netherlands (platforms: 42%, peers: 48%).

For non-users, privacy concerns increase with age

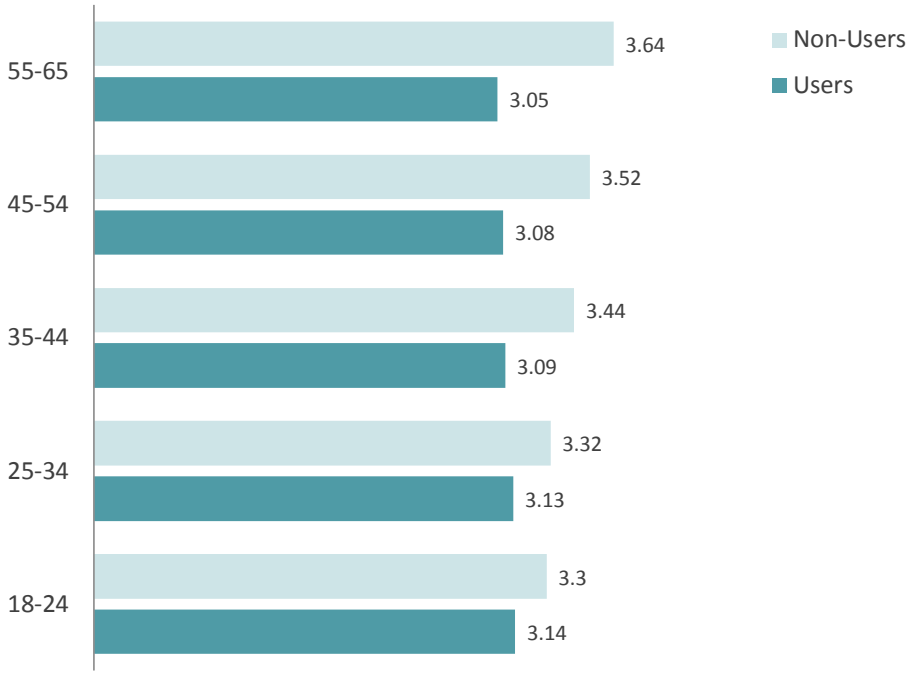


Figure 4: Mean Comparison[2] of Privacy Concerns for Users and Non-Users, by age group.

Our analysis shows that privacy concerns are differently distributed across age groups for both users and non-users of the sharing economy. Users' privacy concerns are – maybe surprisingly - smallest for the oldest age group (Mean: 3.64), and slightly increase with every preceding category. The strongest privacy concerns are associated with the youngest age group (Mean: 3.14).

[2] *All measures based on Likert scale (1-5) with 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.*

For non-users of the sharing economy, the opposite pattern is the case where the youngest group reports the lowest concerns on average (Mean: 3.3). Concerns increase with age, whereby the strongest privacy concerns are associated with the oldest age group of non-users (Mean: 3.64). These findings are interesting as they suggest that age has a crucial impact on privacy concerns, whereby non-users in particular are getting more concerned with age and are therefore probably less likely to overcome their concerns and participate in this form economic interaction.

Users and non-users of the Sharing Economy show similar patterns of education and privacy concerns

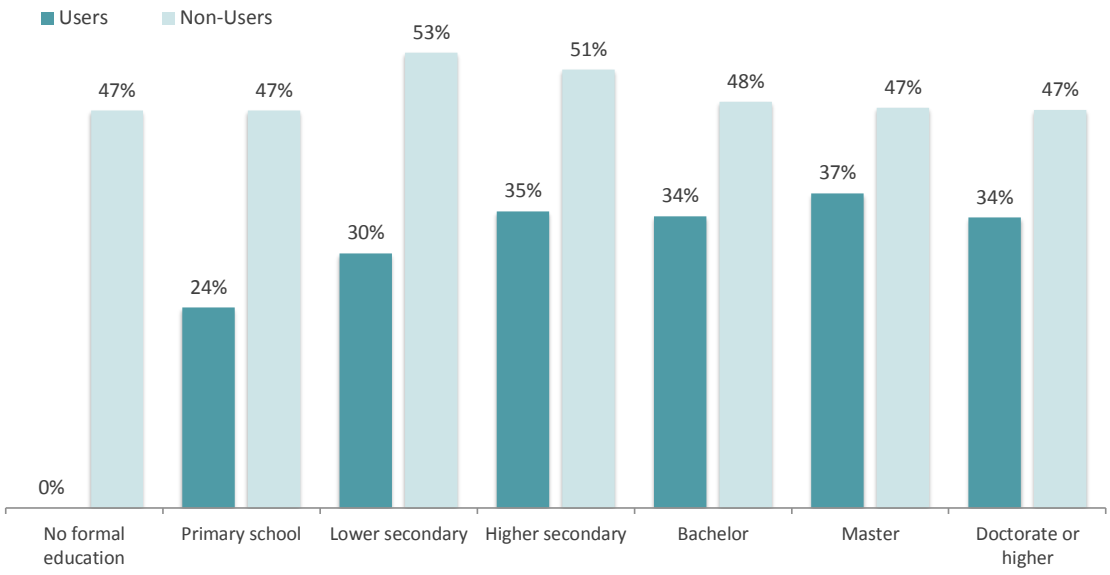


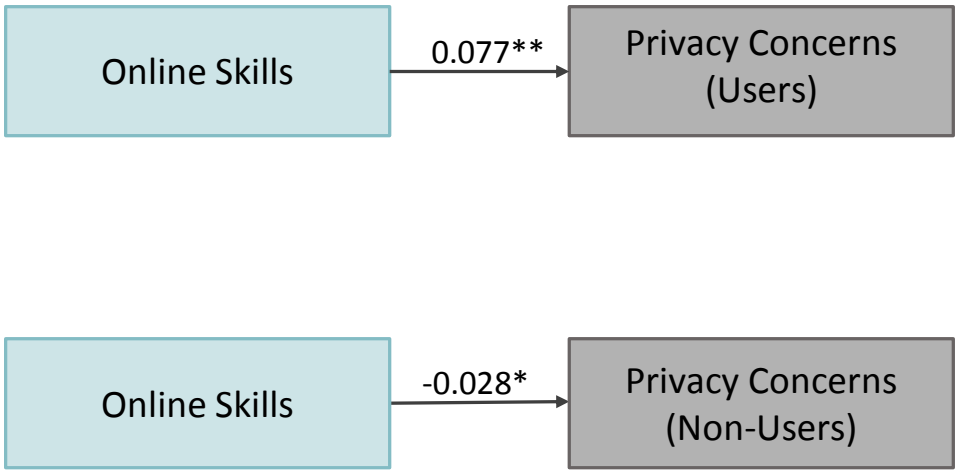
Figure 5: Users and Non-Users reporting "high" and "very high" Privacy Concerns, by education level.

In Figure 5, we represent the relationship between education and degree of privacy concern. As made evident from the column chart, no clear relationship is evident. Amongst users, the highest concerns are associated with individuals having a Higher Secondary (35%) or Master's degree (37%), whereas respondents with only Primary School education report the lowest privacy concerns (24%).

When it comes to non-users, respondents with only Lower Secondary education instead report the highest privacy concerns (53%), followed by individuals with Higher Secondary education (51%). The rest of the sample reports similar privacy perceptions. Overall, this means that we can exclude a direct relationship between level of education and privacy concerns, for both users and non-users of the sharing economy.

Higher online skills relate to higher privacy concerns for users, lower online skills relates to higher privacy concerns for non-users

Online skills reflect the degree to which individuals are familiar with online technologies (e.g., "Wikis", "Spyware", or "Advanced Search"). Our analysis, depicted in Figure 6, detects that online skills significantly relate to the privacy concerns of both users and non-users of the sharing economy, although the correlations are opposite in value and both are quite small in size.



*$p < 0.05$ ** $p < 0.01$ *** $p < 0.001$*

Figure 6: Correlation of Online Skills and Privacy Concerns of Users and Non-Users.

While higher online skills are related to higher privacy concerns for users, the opposite appears to be true for non-users. A possible interpretation for users could come from their experience with the sharing economy: Knowing more about Internet-technologies in general could fuel their concerns about sharing data on the platforms. For non-users the opposite might apply, as non-participation could be a conscious response to their concerns: Non-skilled non-users might be overly concerned with respect to privacy problems.

Most users perceive that platforms use their data fairly

Figure 7 shows a comparison between the percentage of users who perceive sharing platform as fair, beneficial, and essential, and the percentage of users who are concerned about these platforms' use of their personal data. As is evident from the figure, a larger percentage of users is confident about the fair treatment of their data by platforms than that of users who are concerned about privacy-related issues. This might signal that, while concerns are present, the general attitude towards sharing platforms is inclined towards trust.

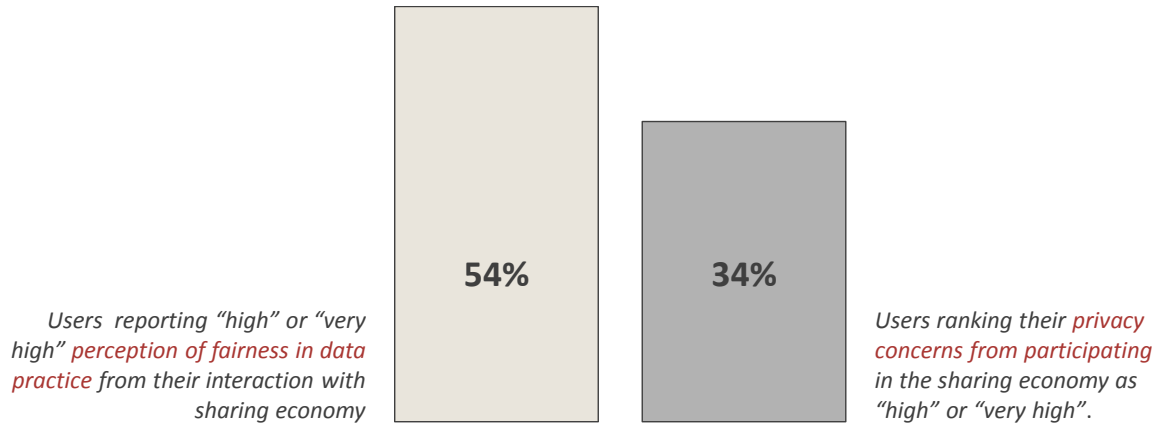


Figure 7: Comparison of Users' perceived fairness in data practices and privacy concerns as "high" or "very high".

Users of the sharing economy report higher benefits than concerns

The figure below compares privacy concerns and perceived benefits among users of the sharing economy. The comparison suggests that users' perceived benefits seem to outweigh perceived concerns, as the largest percentage of providers and consumers report higher benefits received from their participation than perceived privacy risks. For providers within our sample, both perceived risks (26%) and perceived benefits (49%) appear somewhat lower than those of consumers (risks: 37%, benefits: 57%). These results provide an interesting insight into how both user categories perceive privacy risks differently, but how, at the same time, consumers' stronger sense of vulnerability may be counterbalanced with a more substantial amount of perceived benefits.

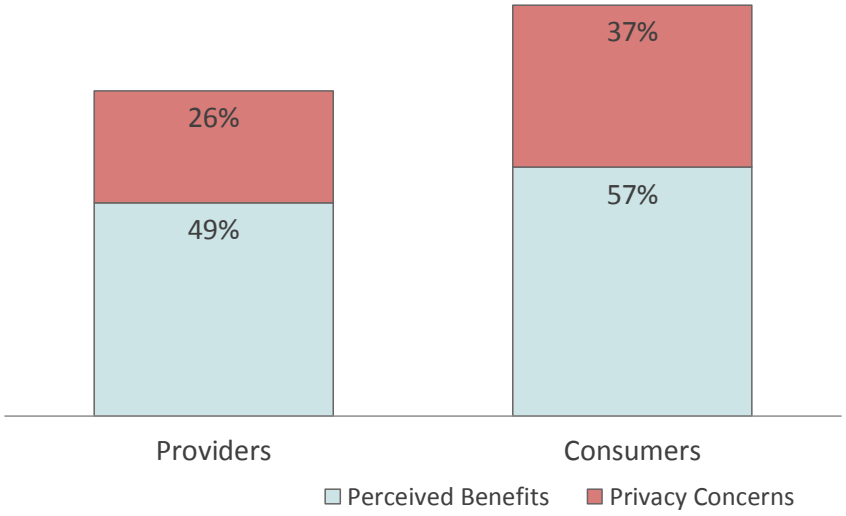


Figure 8: Percentage of consumers and providers reporting "high" or "very high" benefits as opposed to privacy concerns.

3. Providers' Privacy Perceptions and Concerns

While in the previous chapter we have presented results about users more generally, this section focuses only on providers of the sharing economy. As providers share their private goods, spaces, and belongings with consumers, they possibly experience specific privacy concerns stemming from the infringement of personal and physical boundaries around such shared items. Accordingly, we measured and assessed concerns regarding **offline privacy**, which providers have with regard to their shared goods and spaces. We asked providers to rate statements such as "*I am concerned users might damage my belongings*" or "*I am afraid users might snoop through personal belongings*".

In order to better understand providers' experiences of sharing, we also asked respondents to give a ranking for their level of **attachment to the goods/spaces they share** (e.g. *"…says a lot about who I am*", *"…almost feels like a part of me*"). Overall, providers within the sharing economy offer their goods and services to consumers who are often complete strangers to them. Even though many platforms undertake substantive measures to increase safety, transparency, and trust between consumers and providers, our study identifies substantial concerns with regard to privacy issues on the provider side.

Offline Privacy: One third of providers are concerned about the integrity of belongings

Our results show that one third of providers in our study have substantial concerns about the use of their private belongings by consumers. 34.8% of providers are concerned that consumers might actually damage their personal belongings. 30.2% of providers are concerned that consumers might snoop through their personal belongings, which also constitutes a severe violation of privacy. Similarly, 31.3% of providers are concerned that consumers might use what they provide in an inappropriate manner.

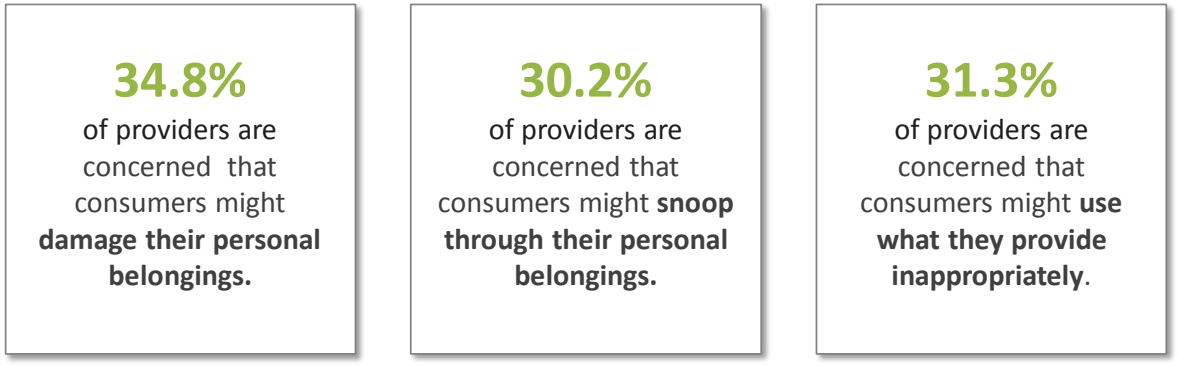


Figure 9: *Percentage of providers reporting "high" or "very high" Offline Privacy Concerns, by item.*

These findings reveal that the various benefits which providers may experience by providing belongings through sharing platforms are often contrasted by severe privacy concerns.

Female providers report slightly stronger privacy concerns than male providers

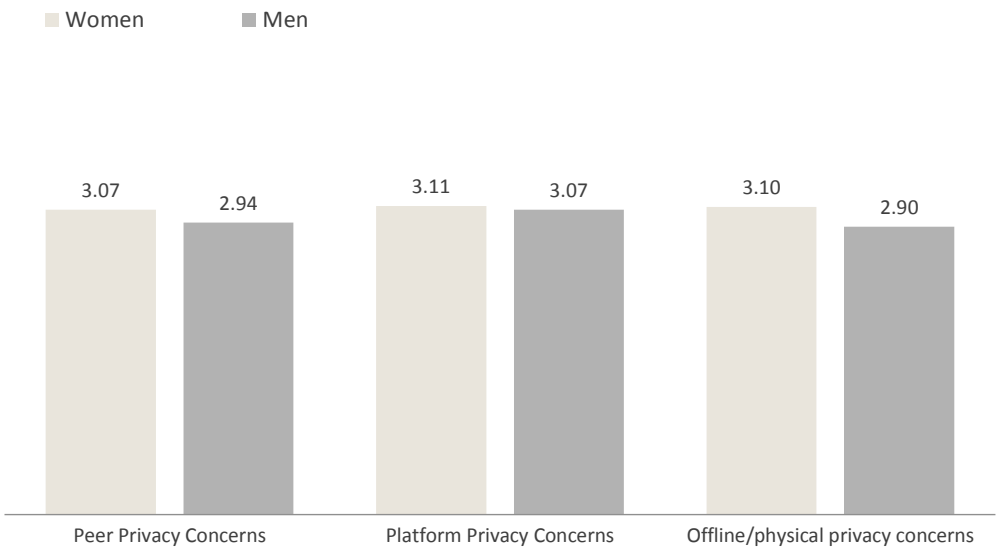


Figure 10: Mean Comparison[3] of providers' Privacy Concerns, by gender.

With regard to gender differences, our study identifies only a very small difference between the privacy concerns of women and men, where women are slightly more concerned towards all considered forms of privacy violations (peer, platform, and offline). Overall, platform privacy concerns are highest for both women and men. This means that concerns around sharing platforms' misuse of personal data are higher than concerns about other individuals using online information or providers' belongings in inappropriate ways.

Higher educated providers have stronger privacy concerns

Our analysis reveals that the education level of providers correlates positively and significantly with privacy concerns. This means that higher educated providers have slightly greater privacy concerns, both when it comes to platform privacy and to offline privacy. Furthermore, our analysis shows no significant relationships between income and privacy concerns.

[3] *All measures based on Likert scale (1-5) with 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.*

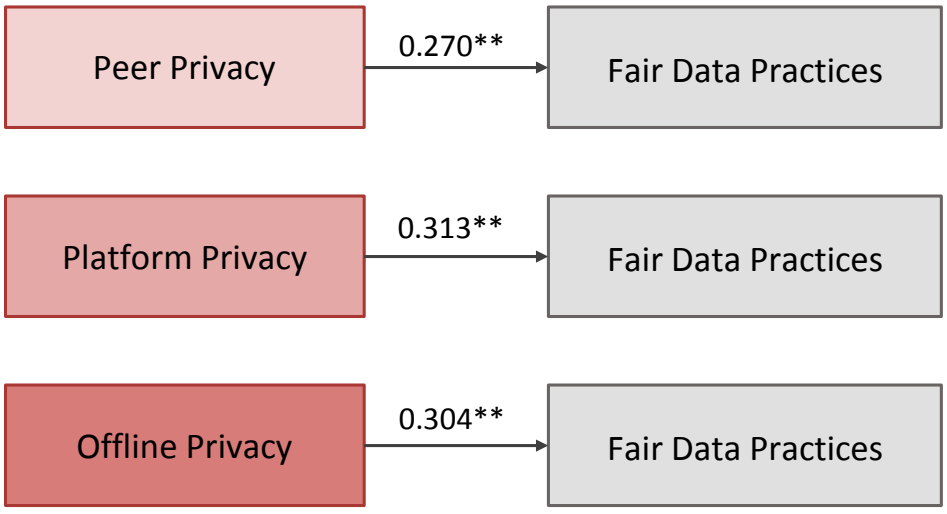
	Peer Privacy	Platform Privacy	Offline Privacy
Education	Not sign.	0.099*	0.085*
Income	Not sign.	Not sign.	Not sign.
Age	-0.097*	Not sign.	Not sign.
Peer Privacy	1	0.792**	0.699**
Platform Privacy	-	1	0.640**

** p < 0.05 ** p < 0.01 *** p < 0.001*

Table 1: *Correlation of providers' Privacy measures with Education, Income, Age.*

The correlation analysis shows that providers who are concerned about one form of privacy, for example peer privacy, are also concerned about other forms of privacy, for example platform privacy. This result suggests that violations of privacy are a general concern across different aspects of sharing, either online or offline.

Privacy sensitive providers perceive data handling practices by sharing platforms as being fair



** p < 0.05 ** p < 0.01 *** p < 0.001*

Figure 11: *Correlations of the three measures for providers' Privacy Concerns with Perceived Data Fairness*

Our analysis, reported in Figure 11, shows that the providers who are more sensitive to privacy violations also more strongly agree that sharing platforms are fair in the way they collect and use data. This means that providers with higher privacy concerns are more likely to perceive that platforms only request the data necessary to conduct their services and that platforms explain why they need the personal data. Furthermore, providers with a high sensitivity for privacy violations perceive that the data requested by platforms are proportional to the benefits that the providers receive, and that the platforms are able to show how they intend to use providers' data.

These results can be interpreted that providers' awareness of the risks of sharing private information leads them to make conscious choices about the platform they choose and trust with their data. As a result, more concerned providers are likely to have a more positive perception about the data handling practices of the chosen platforms. Not surprisingly, this relationship between concern for privacy and perception of fair data practices is the strongest for platform privacy.

Providers from most countries report stronger platform-related privacy concerns

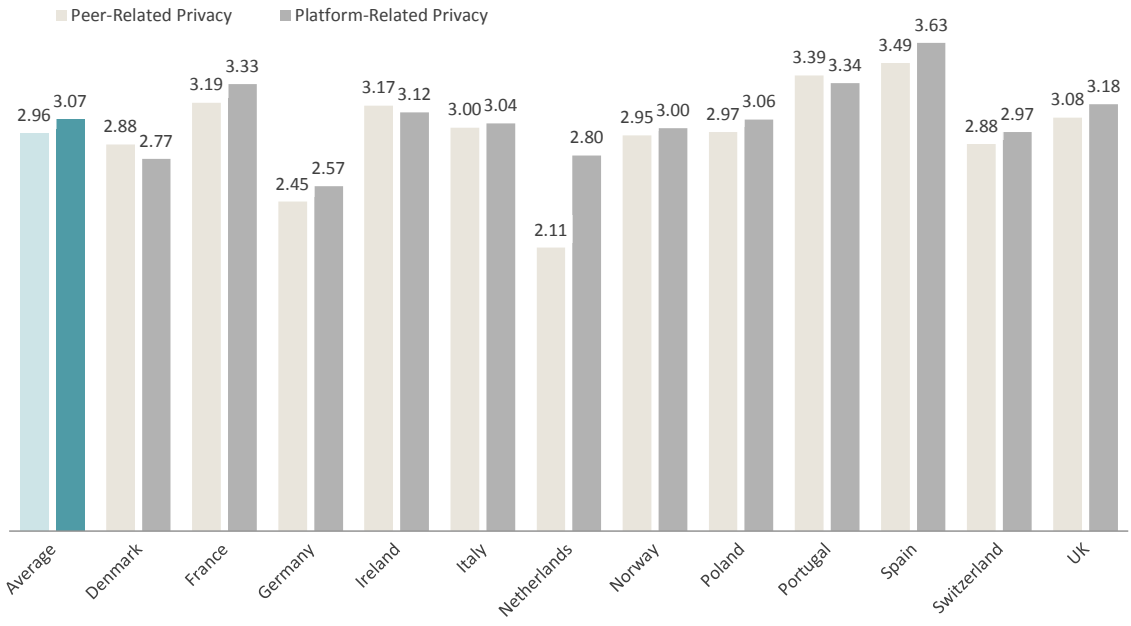


Figure 12: Mean Comparison[4] of providers' Peer-Related and Privacy-Related Privacy measures, by country.

[4] *All measures based on Likert scale (1-5) with 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.*

In line with prior findings, the country comparison reveals that providers from Southern Europe are the most concerned about privacy violations from peers and platforms. On the other hand, providers from countries such as the Netherlands, Germany, and Denmark are the least concerned with these kinds of privacy violations. These findings mirror similar results about these tendencies for overall privacy concerns, as reported in section 2. A comparison across different countries shows that providers in most countries seem to have stronger trust in their peers, who are the consumers or providers, and that they are more concerned about online-privacy violations from the platform side. However, a few countries form an exception. In Denmark, Portugal, and Sweden the providers of sharing platforms report more privacy concerns towards peers than platforms.

Providers from the South of Europe have the strongest concerns regarding offline privacy

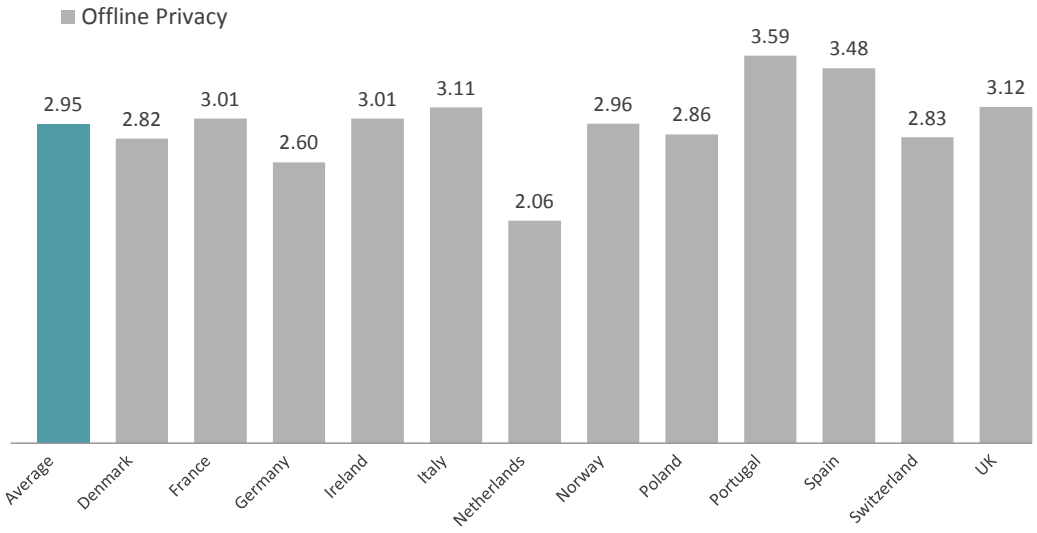


Figure 13: Mean Comparison[5] of providers' Offline Privacy measures, by country.

As Figure 13 shows, providers from the South of Europe are particularly concerned with violations of offline privacy. This finding is coherent with similar findings for other privacy concerns. The fear of having their belongings damaged or used in an inappropriate way is thus highest in Southern European countries, such as Spain, Portugal, and Italy. On the other hand, providers from Central Europe, and in particular those from the Netherlands, Germany, and Denmark, are the least concerned with offline privacy violations. These findings mirror similar results about these tendencies for overall privacy concerns, as included in section 2.

[5] *All measures based on Likert scale (1-5) with 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.*

One third of providers feel strongly attached to the belongings which they share

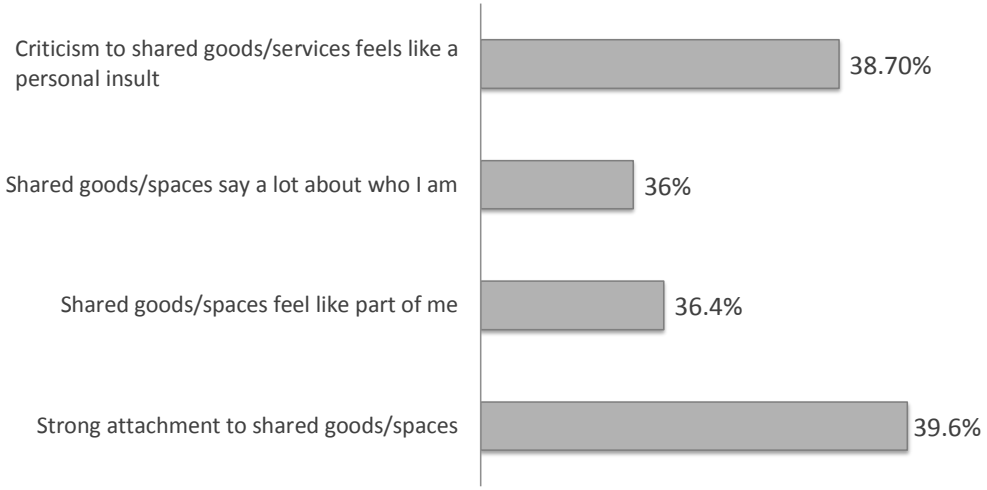


Figure 14: Percentage of providers reporting "high" or "very high" Attachment, by item.

The sharing economy has evolved from the basic idea of sharing personal belongings with others. Our study reveals that almost half of providers (40%) have a strong personal attachment to these belongings. Even more so, over one third of providers thinks that the belongings they share say a lot about who they are and that these belongings feel like a part of them. Accordingly, it is not surprising that 38.7% of providers perceive criticism about their shared belongings as being a personal insult. Overall, these results suggest that over one third of providers are personally and emotionally attached to the goods and spaces they share through sharing platforms, which can explain the concerns about offline privacy identified earlier in the report.

Providers from Portugal report highest attachment to their belongings

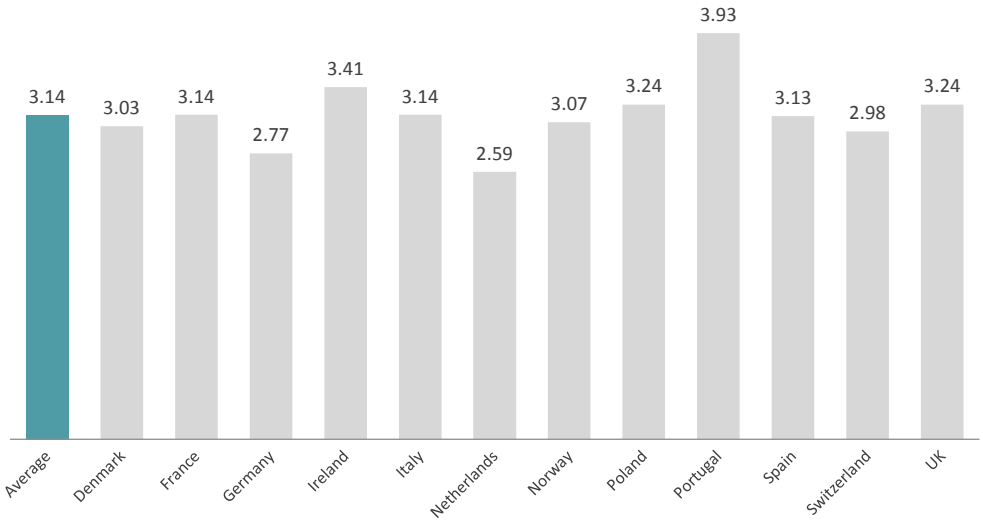
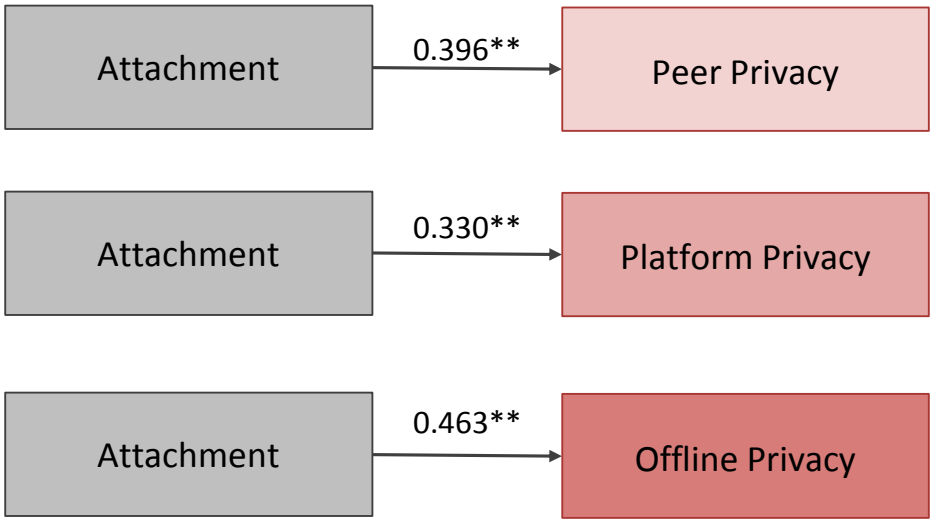


Figure 15: Mean Comparison of Attachment measures, by country.

The country comparison reveals that providers in Portugal feel the strongest attachment with the belongings which they share through sharing platforms. In contrast, providers from the Netherlands have the weakest attachment to their shared belongings.

Strong Attachment leads to stronger privacy concerns among providers



** p < 0.05 ** p < 0.01 *** p < 0.001*

Figure 16: Correlation of providers' Privacy Concern measures with Attachment.

Attachment to personal goods and spaces can influence the decision to share these goods and related privacy concerns. Figure 16 displays correlations between Attachment and different types of privacy concerns. Our analysis shows that providers with a high Attachment to the personal belongings they share report stronger concerns for privacy violations. Interestingly, with regard to the different privacy concerns, this relationship is the strongest for offline privacy (*r*: 0.463, p<0.01). This means that the more attached providers are to the goods they share, the more they will be concerned about potential damages to such goods.

4. Consumers' Privacy Perceptions and Concerns

Consumers of the sharing economy provide their private data in order to use the goods and services that providers share. As such, consumers expose themselves to potential privacy violations from both peers and platforms. In this chapter, we explore consumers' different privacy perceptions and focus on the privacy trade-offs they experience.

Across Europe, consumers are mostly concerned about misuse of data by platforms

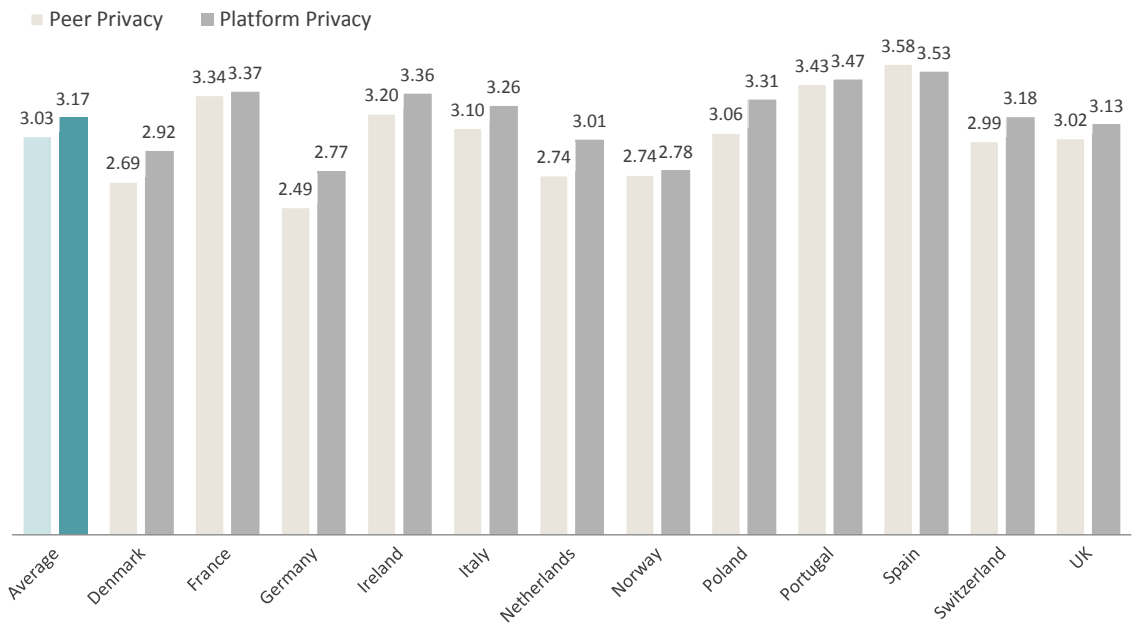


Figure 17: Mean Comparison[6] of consumers' Peer-Related and Platform-Related Privacy measures, by country

Results from our analyses show that consumers across all studied countries, with the exception of Spain, tend to be more concerned about the potential misuse of their data by platforms, rather than peer-related risks such as hacking or identity theft. Consistent with previously reported results, Spanish users present the highest concerns for both peer-related privacy (Mean: 3.58) and platform-related privacy (Mean: 3.53). However, they also present an inverted trend compared to respondents from all other countries involved in the study. Portuguese users report the second-highest concerns for both peer- (Mean: 3.43) and platform-related privacy (Mean: 3.47).

[6] *All measures based on Likert scale (1-5) with 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.*

German, Dutch, and Polish providers report the widest gaps between platform- and peer-related privacy, suggesting that providers are much more concerned about platforms' use of their data, rather than about the misuse from other users.

Almost no gender differences for consumers' privacy concerns

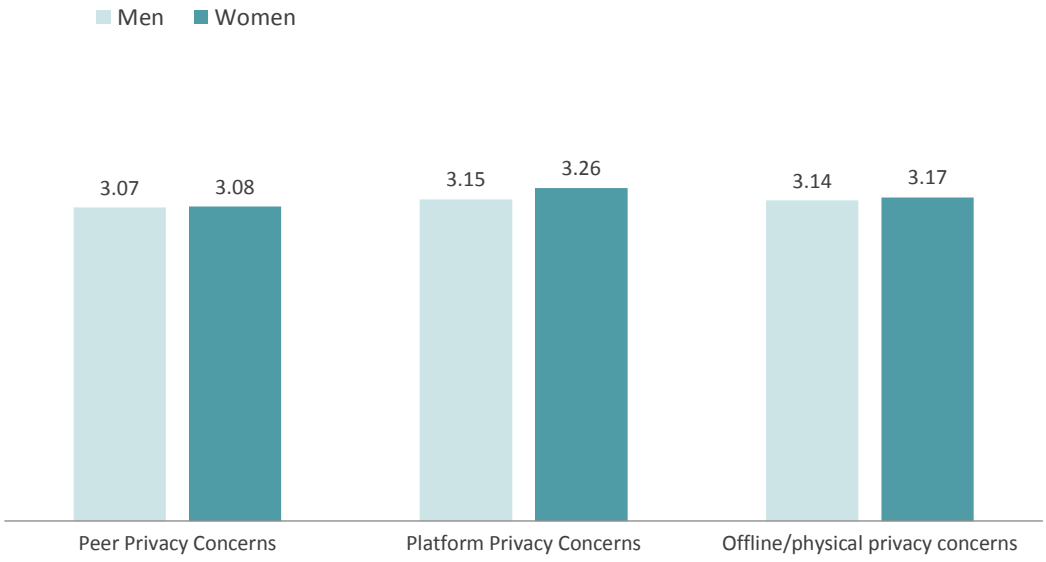


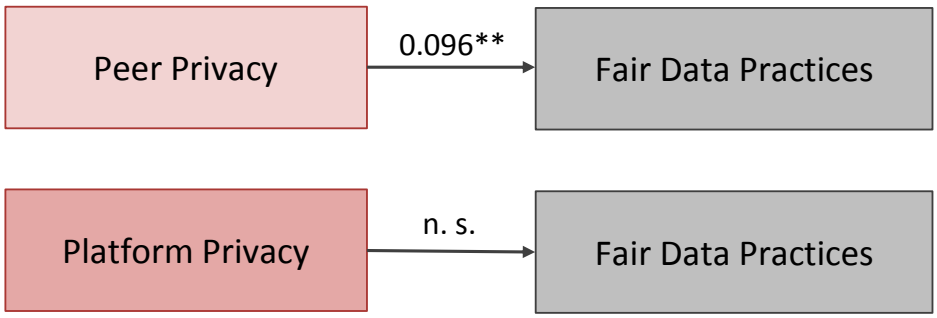
Figure 18: Mean Comparison7 of consumers' Privacy Concerns, by gender

More than in the case of providers, differences between genders for consumers' privacy concerns are very small. Female consumers tend to be more concerned about privacy than male consumers, with the strongest differences in platform-related privacy concerns (Mean Women: 3.26, Mean Men: 3.15). No substantial differences are reported for offline- and peer-related privacy concerns.

Consumers who are concerned about peer privacy are likely to find platforms' data use as fair

Similar to the findings for providers, we found that the more concerned that consumers were about privacy, the more they perceived data handling practices by platforms as being fair. Figure 17 shows this relationship for consumers, that is, between different privacy concerns about the sharing platform and the platforms' perceived data fairness.

[7] *All measures based on Likert scale (1-5) with 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.*



** p < 0.05 ** p < 0.01 *** p < 0.001*

Figure 19: *Correlation of consumers' Privacy Concern measures with Perceived Data Fairness.*

Results from our analysis report that, unlike providers, consumers' platform-related privacy concerns have no relation with how fair they perceive platforms' data use to be. This means that stronger concerns about platform privacy do not relate to the perception of fairer data practices. However, a positive and significant correlation is found between peer-related privacy and perceived data fairness (B: 0.096, p<0.01), highlighting how users, who feel more at risk of dangers such as identity theft, might find the existing data protection of platforms more reassuring.

Consumers who are concerned about peer-related privacy are also likely to be concerned about platform-related privacy

	Peer Privacy	Platform Privacy
Education	N.s.	N.s.
Income	N.s.	N.s.
Age	N.s.	N.s.
Peer Privacy	1	0.787**
Platform Privacy	-	1

** p < 0.05 ** p < 0.01 *** p < 0.001*

Table 2: *Correlation of consumers' Privacy measures with Education, Income, Age*

Our analyses found no correlation between demographic measures (education and income) and consumers' privacy concerns, meaning that demographics are unlikely to determine significant differences across our respondents from the consumer group.

However, positive and significant correlations are found across the various privacy types and, in particular, between peer- and platform-related privacy concerns (r: 0.787, $p < 0.01$), highlighting how consumers' privacy concerns appear to be directed towards all aspects of the sharing economy. A high and significant correlation is also found between peer-related and offline-privacy concerns (r: 0.696, $p < 0.01$), as consumers might interpret both risks as arising directly from their interaction with providers, either online or offline.

5. Impression Management and Reputation Damage

Users of the sharing economy choose, to a certain degree, the amount and type of personal information they disclose with others in order to access the services they want. The strategic disclosure of personal information to build an online impression, also called *impression management*, is an important tool for both providers and consumers to exert control over how they appear online.

We asked respondents to rank their level of online **impression management** through items such as *"I invest significant time and effort into how I present myself"*, or *"it's important to me how I appear to others online"*. Importantly, on sharing platforms, users are typically reviewed by other users, which may influence how they appear online. Accordingly, we addressed users' concerns about possible **reputation damage**, for example, due to a negative online review on a sharing platform. Respondents were asked to rank their concerns through items such as *"bad evaluations reflecting negatively on me"* or *"unflattering videos/photos visible to others"*. In this section, we provide an overview of the relationship between impression management and privacy concerns, which also includes concerns about unwanted information disclosures from peers.

Impression management is important among users, most prevalent among consumers

Figure 20: Percentages of users reporting "high" or "very high" measures of impression management, by category.

Respondents were asked to rank the importance of impression management tactics on sharing economy platforms (for users) and on other social network sites (for non-users). Our results show that users of the sharing economy seem to extensively employ strategic self-presentation tactics.

Consumers, in particular, reported the highest levels of impression management (43.6%), followed closely by providers (40.6%). This might signal how self-presentation plays a more prevalent role for those users who want to access the services and goods of sharing platforms. In order to access goods and services from providers, consumers seem to rely heavily on impression management.

Consumers from Portugal and providers from Italy employ the most impression management

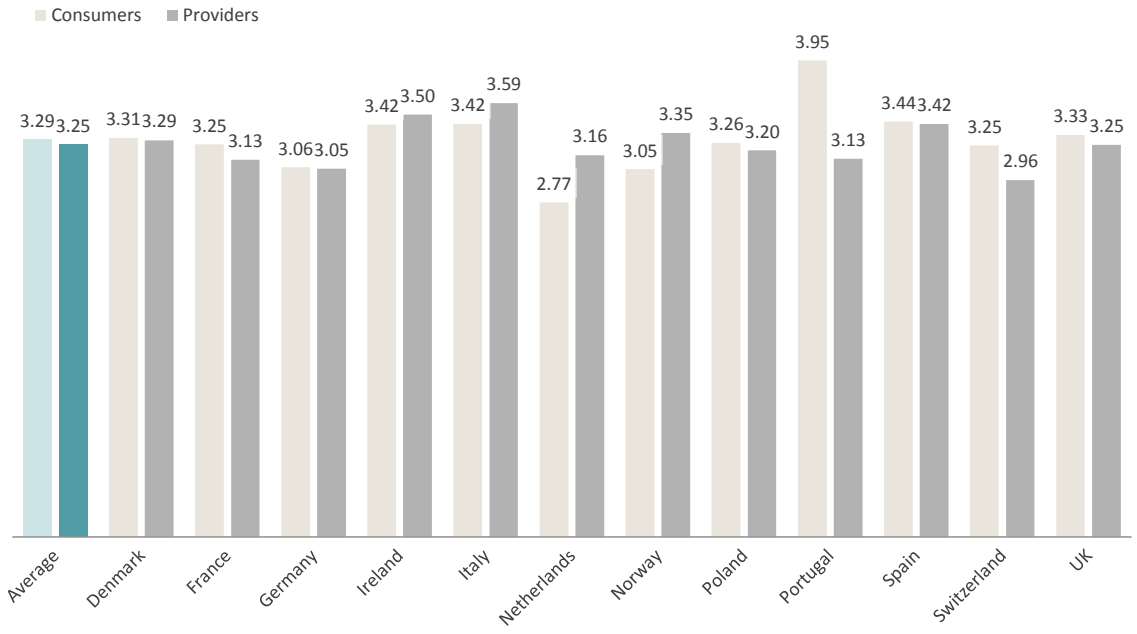


Figure 21: Mean Comparison[8] of impression management measures of consumers and providers, per country.

Looking at users' employment of impression management, some country differences appear evident. In the majority of countries, consumers reported higher levels of impression management than providers. However, for respondents from Denmark (Consumers Mean: 3.31, Providers Mean: 3.29) and Spain (Consumers Mean: 3.44, Providers Mean: 3.42) differences are rather minimal. An exception can be found for Portugal, where consumers report much higher impression management measures than providers (Consumers Mean: 3.95, Providers Mean: 3.13).

Users from a few countries highlight an opposite trend. Providers from the Netherlands, Norway, Italy, and Ireland report higher impression management practices than consumers. In particular, providers from Italy present the highest impression management among their group (Consumers Mean: 3.42, Providers Mean: 3.59).

[8] *All measures based on Likert scale (1-5) with 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.*

Providers who are more privacy sensitive are more likely to employ impression management

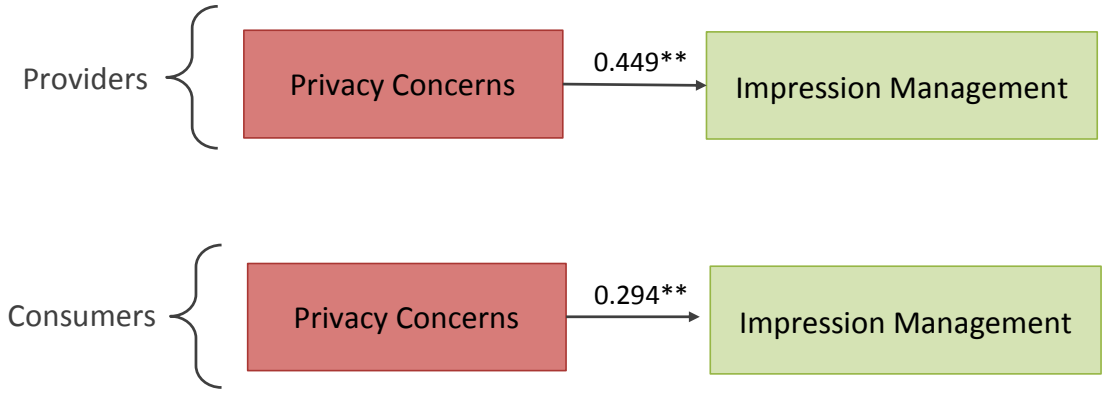


Figure 22: *Correlation of Privacy Concerns with impression management, by category of users.*

For users of the sharing economy, a positive and significant correlation between privacy concerns and impression management exists. This can be interpreted that users, who are more sensitive to privacy risks, are also more conscious about how they present themselves online. With regard to the user-subgroups, providers report a stronger correlation than consumers (Providers: *r*: 0.449, p< 0.01, Consumers: *r:* 0.294, p< 0.01). This means that providers, who share information both *about themselves* and *about the goods they share,* might more explicitly use impression management to control their self-presentation, and are also more concerned about privacy violations.

Providers who are more concerned about offline privacy will employ more impression management

For both categories of users, higher privacy concerns are significantly and positively correlated with higher measures of impression management. This means that providers and consumers who have more concerns surrounding their data tend to control the way they present themselves online more strictly.

Providers report higher measures for all concerns and particularly high measures for offline privacy (*r:* 0.627, p< 0.01). One possible interpretation is that providers who are more concerned about the infringement of physical boundaries might use impression management as a way to select the right consumers, thereby minimizing their perceived risks.

		Consumers	Providers
		Impression Management	
Consumers	Peer Privacy	0.247**	-
	Platform Privacy	0.267**	-
Providers	Peer Privacy	-	0.553**
	Platform Privacy	-	0.599**
	Offline Privacy	-	0.627**

** p < 0.05 ** p < 0.01 *** p < 0.001*

Table 3: *Correlation of users' impression management and Privacy Concerns, by user group*

In contrast to providers, platform and peer-related privacy concerns for consumers correlate similarly with impression management, highlighting how strategized self-presentation might help mitigate both privacy concerns.

One third of users are highly concerned about possible reputation damage

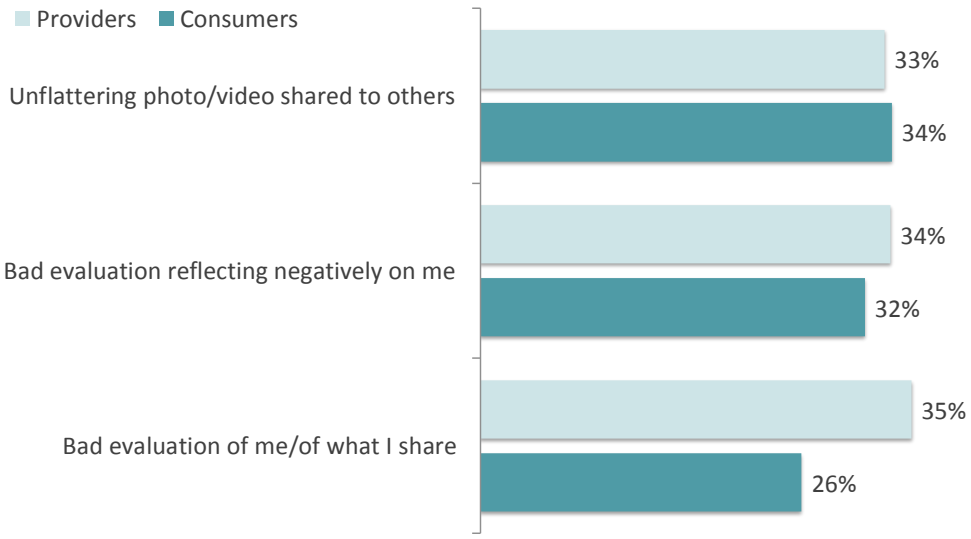


Figure 23: *Percentage of providers reporting "high" or "very high perceived risks of reputation damage, by item.*

The loss of control over self-presentation appears to be a high concern for roughly one third of users. Consumers and providers report similar concerns for the individual items. While concerns about the loss of control over self-presentation are similar across the two categories of users, potential (bad) evaluations of private goods could be what motivates the higher concerns of providers around the third item ("Bad Evaluation of me/what I share"; Providers: 35%, Consumers: 26%). In fact, while third party evaluations of consumers might exclude them from receiving service from an individual provider, negative commentary about providers might completely exclude them from participation to the platform. This could explain why fears around possible reputation damages play a more important role for providers within the sharing economy.

Privacy concerned consumers are more likely to care about their reviews and evaluations

		Consumers	Providers
		Risk of Reputation Damage	
Consumers	Peer Privacy	0.435**	-
	Platform Privacy	0.500**	-
Providers	Peer Privacy	-	0.452**
	Platform Privacy	-	0.427**
	Offline Privacy	-	0.424**

** p < 0.05 ** p < 0.01 *** p < 0.001*

Table 4: Correlation of Privacy Concern measures with Risk of Reputation Damage, per category of users.

For both categories of users, we found positive and significant correlations between all measures of privacy concerns and perceived risks of reputation damage. This means that users, who are more concerned about peer-related, platform-related or offline privacy (providers only), will be more likely to also be concerned about their online reputation. The correlation values for consumers and providers are similar, but the relationship between consumers' platform-related concerns and risk of reputation damage emerges as the strongest (*r:* 0.500, p**<** 0.01). This highlights that consumers, who perceive high risks around sharing their data with platforms, might also be inclined to feel more at risk when it comes to third party reviews. Interestingly, providers report a stronger correlation of reputation risks with peer-related privacy concerns (*r:* 0.452, p**<** 0.01) than with other types of concerns. This means that providers who report higher risks of hacking or identity theft are also more concerned about their reputation being ruined by negative reviews.

5. Conclusions

This report offers an overview on how privacy is perceived by users of the sharing economy. A first trend that appears from our analyses is the difference in privacy concerns between users and non-users of the sharing economy. In fact, while considering an aggregated measure for privacy concerns, non-users report higher privacy concerns than users, which might be one of the main explanations as for why non-users do not participate in the sharing economy.

When using separate measures for platform-related concerns and peer-related concerns, users and non-users report a different and more nuanced trend. While users report higher concerns relating to platform misuse of their data, non-users' concerns are mainly situated with data theft, hacking, or stalking, i.e., peer-related concerns. This could signal that it is particularly privacy concerns related to other users that might keep potential users out of the sharing economy. This should be further investigated in order to better understand what those concerns are and how they could be addressed.

Geographically, our report signals two different trends. Respondents from the South of Europe, and especially from Portugal and Spain, report significantly higher privacy concerns than the rest of the sample, both for the group of consumers and for that of providers. Conversely, respondents from Germany and the Netherlands report the lowest privacy concerns across the sample, both in the consumers and in the providers' group. This could signal local preferences, maybe connected to the specific platforms which respondents employ or cultural differences. Further research could help clarify this apparent divide.

Other major findings relate to the personal attachment which many providers have to their goods, which leads them to have particular offline-privacy concerns. Furthermore, with regard to the relationship of impression management strategies with privacy concerns, for respondents in both the providers and the consumers groups, the high correlations found between privacy concerns and impression management highlights how users might employ self-presentation strategies as a tool to minimize the risks relating to direct interactions with other users, such as damages to their properties. Respondents' perceived risks of reputation damage, mainly relating to negative reviews or comments by other peers, also correlate highly with their privacy concerns. This stresses once more how self-presentation on a sharing platform might be only partially in the control of individual users, and how that could generate discomforts and concerns.

6. References

Andreotti, A., Anselmi, G., Eichhorn, T., Hoffmann, C. P., & Micheli, M. (2017). Participation in the Sharing Economy. *SSRN Electronic Journal*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2961745

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Report from the EU H2020 Research Project Ps2Share:
Participation, Privacy, and Power in the Sharing Economy

Appendix: Methods and Sample

Gemma Newlands[1], Christoph Lutz[1], Christian Pieter Hoffmann[2], and Christian Fieseler[1]

[1] BI Norwegian Business School
[2] University of Leipzig

1. Introduction

This Appendix forms one element of a European Union Horizon 2020 Research Project on the sharing economy: **'Ps2Share 'Participation, Privacy, and Power in the Sharing Economy'**. The study is undertaken within the scope of the European Union's Horizon 2020 research and innovation programme, funded under grant agreement No. 732117 and with the objective (ICT-35) of "Enabling responsible ICT-related research and innovation".

This project aims to foster better awareness of the consequences which the sharing economy has on the way people behave, think, interact, and socialize across Europe. Our overarching objective is to identify key challenges of the sharing economy and improve Europe's digital services through providing recommendations to Europe's institutions. We focus on topics of participation, privacy, and power in the sharing economy.

The project comprises four primary tasks: 1) A review of existing literature on the sharing economy, focusing on issues of participation, privacy, and power; 2) A platform analysis of more than 300 platforms operating within Europe; 3) A series of focus groups in 5 European countries; and 4) A representative survey of more than 6000 inhabitants across 12 European countries.

The results of the representative survey are reported in three separate reports: **'Participation in the Sharing Economy: European Perspectives'**, **'Privacy in the Sharing Economy: European Perspectives'**, and **'Power in the Sharing Economy: European Perspectives'**. The purpose of this Appendix is to act as a free-standing yet complementary report, providing essential information on the research design, data collection methodology, and demographic factors related to our quantitative sample.

2. Methodology

This section provides a brief overview of the methodology adopted in the quantitative survey.

Research Design:

To explore the prevalence, antecedents, and outcomes of participation, privacy, and power challenges in the European sharing economy, the consortium determined to construct a cross-national quantitative survey aimed at assessing the attitudes and self-reported behavior of more than 6000 individuals across 12 European countries.

The survey targeted both users and non-users of the sharing economy. Accordingly, the survey was designed so as to filter respondents into four categories, based on their exposure to the sharing economy.

- The first category, 'providers', refers to respondents who have used sharing economy platforms to offer their goods or services.

- The second category 'consumers' refers to respondents who have used sharing economy platforms to receive goods or services. Due to the expected imbalance in numbers

between providers and consumers, respondents who had used sharing economy platforms as both a provider and a consumer were directed towards the provider category and requested to answer the survey as a provider.

- The third category, 'aware non-users', refers to respondents who are aware of sharing economy services, but have never used them as either providers or consumers.

- The fourth category, 'non-aware non-users', refers to respondents who have not heard of the sharing economy and have not used sharing economy services.

The survey was further divided into four sections with regard to topic. The first section focused on demographic information, personality traits, and self-reported skill levels. The second section focused on participation modalities and antecedents. The third section focused on privacy concerns. The fourth section focused on perceived power dynamics in the sharing economy. Full overviews of the items within each section are provided in the respective quantitative reports.

Country Selection:

With regard to the country selection, the consortium determined to take a broad European focus, including countries both within and outside the European Union. As a selection criteria, the consortium included countries represented by the consortium members, namely Denmark, Germany, Italy, the Netherlands, Norway, and Switzerland. In addition, the consortium determined to include countries which would represent different geographical regions within Europe, namely France, Ireland, Poland, Portugal, Spain, and the United Kingdom.

With this selection, the survey would include the largest European countries, as well as a representative selection across eastern, western, northern, and southern Europe. In addition, this selection includes countries with both a higher and lower average income, as well as countries with a varied uptake of sharing economy services.

Questionnaire Design:

The questionnaire was designed in iterative and collaborative process. Initial items were suggested by members of the research consortium and, due to the relatively novel nature of the sharing economy, the initial questionnaire design included both pre-established scales and newly developed scales. The questionnaire consisted of a series of open and closed questions, where for most closed questions respondents could state their agreement to a statement on a five-point Likert scale.

For the purposes of quality control, testing, and scale reduction, the consortium determined to carry out a pre-test. Additional questions were included within the pre-test survey in the form of open comment boxes. Respondents were asked to give their opinion on the survey and to point out any perceived flaws or confusion.

The pre-test survey was distributed online in May 2017 via Amazon Mechanical Turk and the survey administration was handled via TurkPrime. The survey was distributed among 393 US-based respondents. The survey took 1013 seconds to fill out on average, with the median number of seconds to complete it being 885 (standard deviation 508 seconds). Respondents for the pre-test received a reward of 2 US Dollars, with an additional 1 US Dollar completion bonus.

Due to its nature as a pre-test, the consortium determined it was satisfactory to use a US-based respondent sample. Moreover, the expertise of the US-based sample on Amazon Mechanical Turk, with regard to their exposure to varied survey designs, provided valuable feedback for improving the survey. In light of the pre-test, the questionnaire was further reduced. This questionnaire underwent testing within the consortium through factor analysis and qualitative discussions in order to further reduce its length and increase clarity.

The finalized questionnaire was translated from English into the required languages: Danish, Dutch, French, German, Italian, Norwegian, Polish, Portuguese, and Spanish. A survey for each country, except for Switzerland which received a survey both in French and German, was then programmed by the research team in Qualtrics. Each survey was synchronized to be identical in content.

Data Collection

For the recruitment of participants, the research team collaborated with Ipsos MORI, a leading ESOMAR-certified, international, and UK-based survey provider to access a high-quality respondent pool in the form of a consumer panel.

The panel included a representative sample of the online population in each country, in terms of age (18-65), gender, and region (or best efforts by survey provider where necessary). The panel included a target of 500 respondents in each country. Respondents received a small financial reward for filling out the questionnaire directly from the survey provider. The first round of field work took place in June and July 2017.

After a period of quality control, where low quality respondents were removed (i.e., due to speeding, through-lining, or nonsensical answers to open text boxes), the second round of field work took place in August 2017.

A final nationally representative sample was thus prepared, numbering 6111 participants. To ensure representativeness, some countries include more than 500 participants. The descriptive statistics below provide further information as to sample sizes for each country.

Data Preparation

After collection, the survey data underwent a process of cleaning and preparation by members of the consortium within SPSS. Firstly, the individual surveys were aligned, using the UK survey as the master-file. The variable names and labels for each item were changed and values were checked, with any inconsistencies being corrected. The process of data cleaning and preparation was fully documented within SPSS syntax.

3. Descriptives

Country

As described above, 12 European countries were represented in the survey, each with a sample of between 500 and 534 participants. Accordingly, each country consisted of approximately 8% of the overall sample, with Italy (8.7%), Spain (8.7%), and the Netherlands (8.4%) being slightly over-represented.

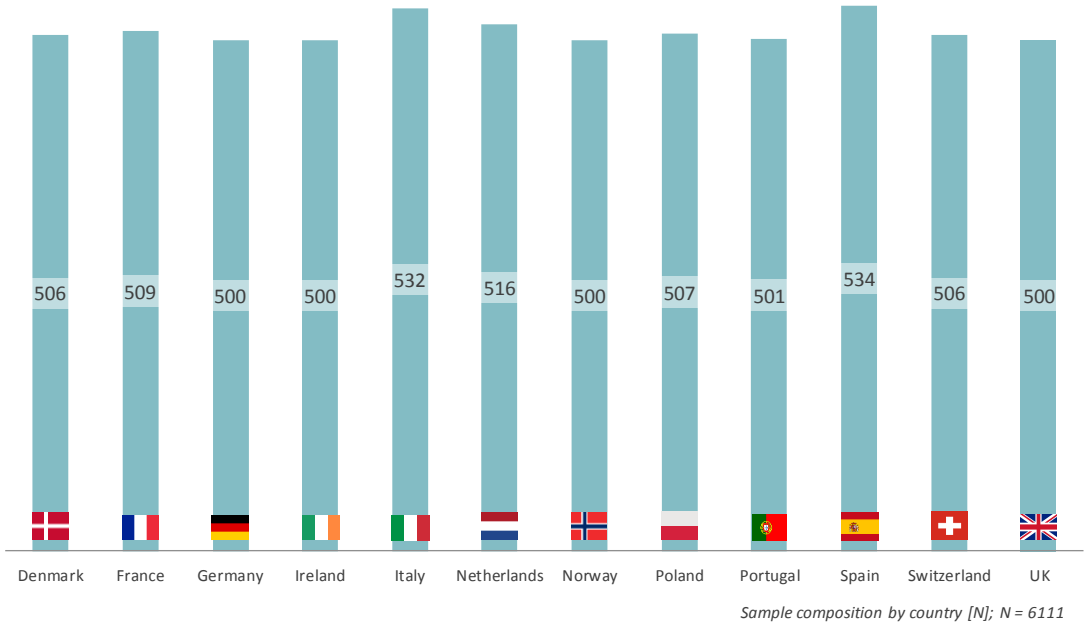

Figure 1: *Sample Composition by Country*

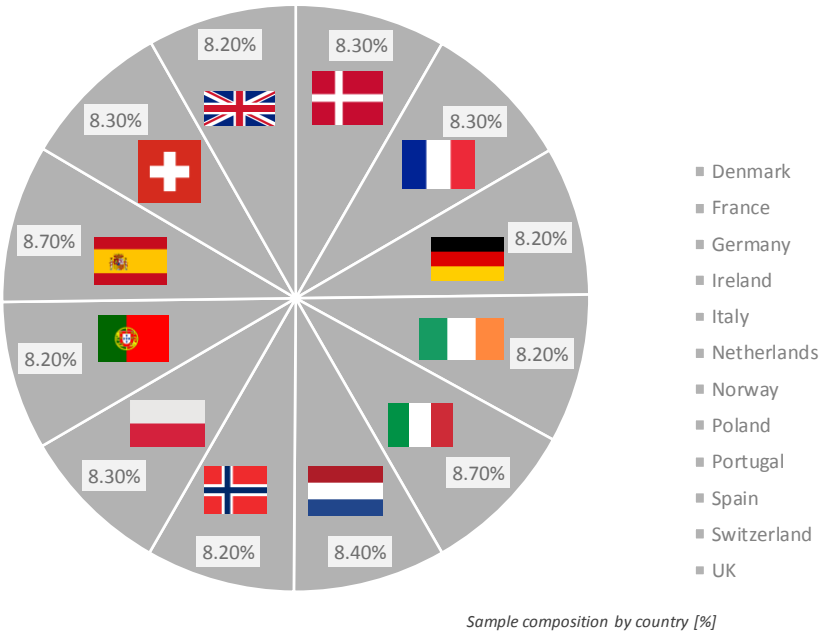

Figure 2: *Sample Composition by Country, in percent*

Age

The sample consists of Europeans between the ages of 18 and 65. The sample composition is roughly structurally equivalent, with the average age across the sample being 41.7 years old.

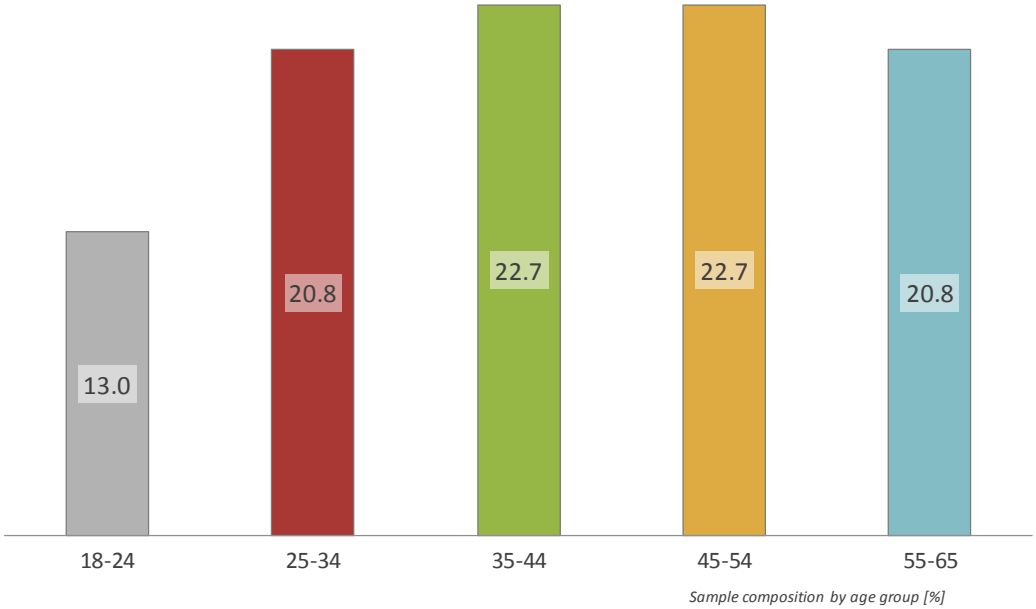

Figure 3: *Age Band, all Countries*

	18-24	25-34	35-44	45-54	55-65	M	SD
Denmark	13.6	18.8	21.7	23.3	22.5	42.29	13.812
France	13.4	20.2	21.8	22.4	22.2	41.99	13.359
Germany	12.4	19.4	20.4	25.8	22.0	42.57	13.337
Ireland	12.6	24.6	24.2	20.8	17.8	40.43	12.731
Italy	12.0	20.1	23.7	23.3	20.9	42.12	13.238
Netherlands	14.1	18.6	21.7	23.3	22.3	42.2	13.638
Norway	15.0	20.8	22.4	21.4	20.4	40.71	13.719
Poland	14.0	24.5	19.9	19.7	21.9	40.87	13.697
Portugal	11.8	19.8	24.2	23.0	21.4	42.02	13.227
Spain	9.4	20.8	28.7	23.6	21.4	41.56	11.93
Switzerland	12.8	20.6	22.1	24.1	20.4	41.73	13.517
UK	14.8	21.2	21.8	22.0	20.2	41.33	13.204
Total	13.0	20.8	22.7	22.7	20.8	41.66	13.292

Sample composition by age group and country [%]; Mean and Standard Deviation

Table 1: *Age Band per Country*

Gender

The sample is composed of 50% male and 50% female participants. This pattern is generally stable across all surveyed countries.

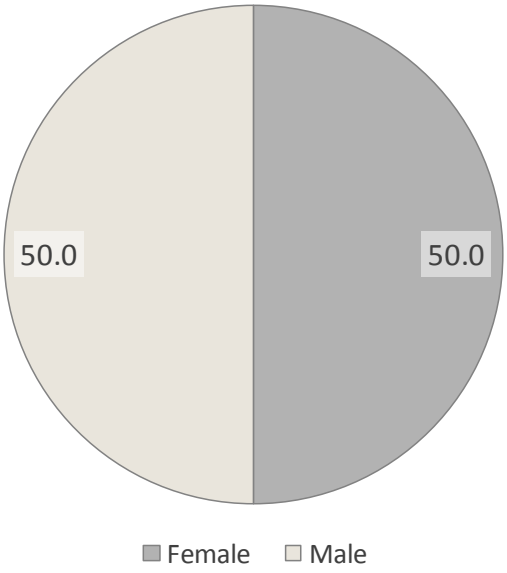

Figure 4: Sample Composition by Gender, in percent

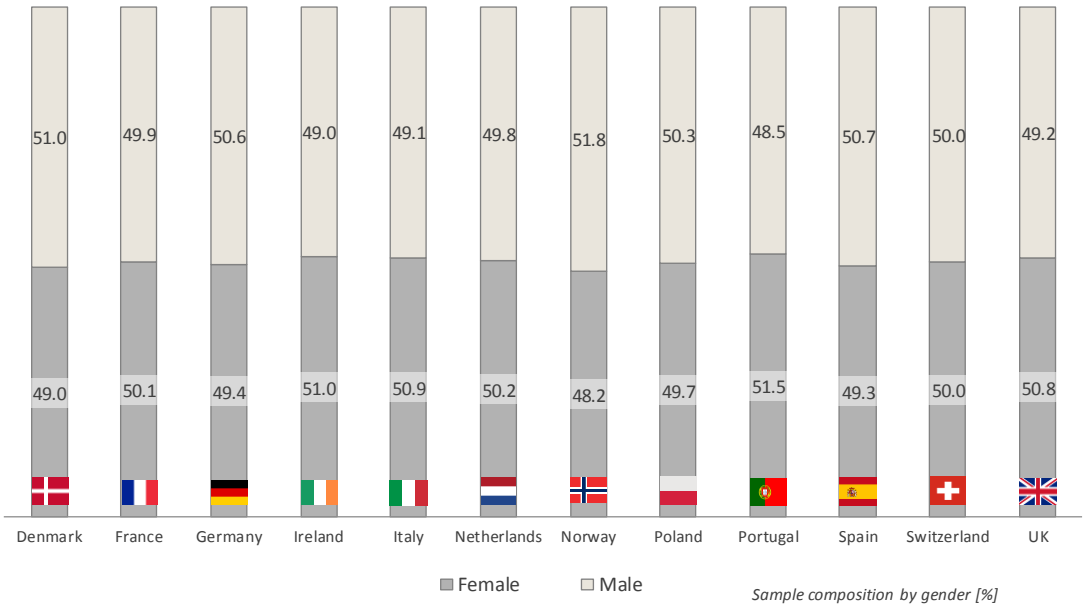

Figure 5: Gender Composition – Cross-Country Comparison

Employment Status

Within the sample, 66.5% of participants are currently employed. There is a notable variance across countries regarding employment status, with Spain (42%), Italy (41.5%), and Denmark (40.7%) showing relatively higher percentage of participants who are not currently employed.

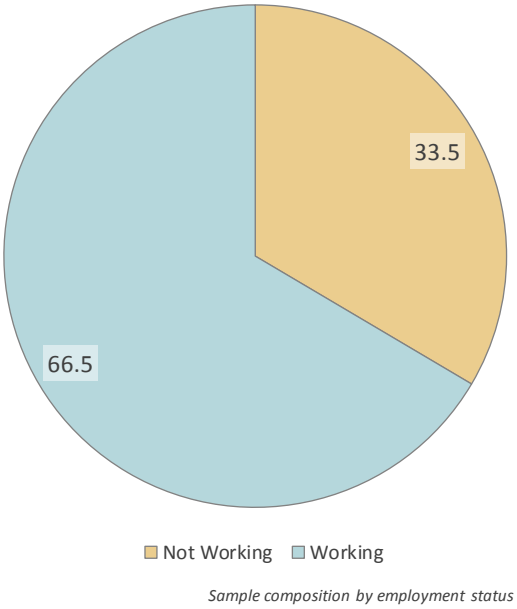

Figure 6: Working Status – All Countries, in percent

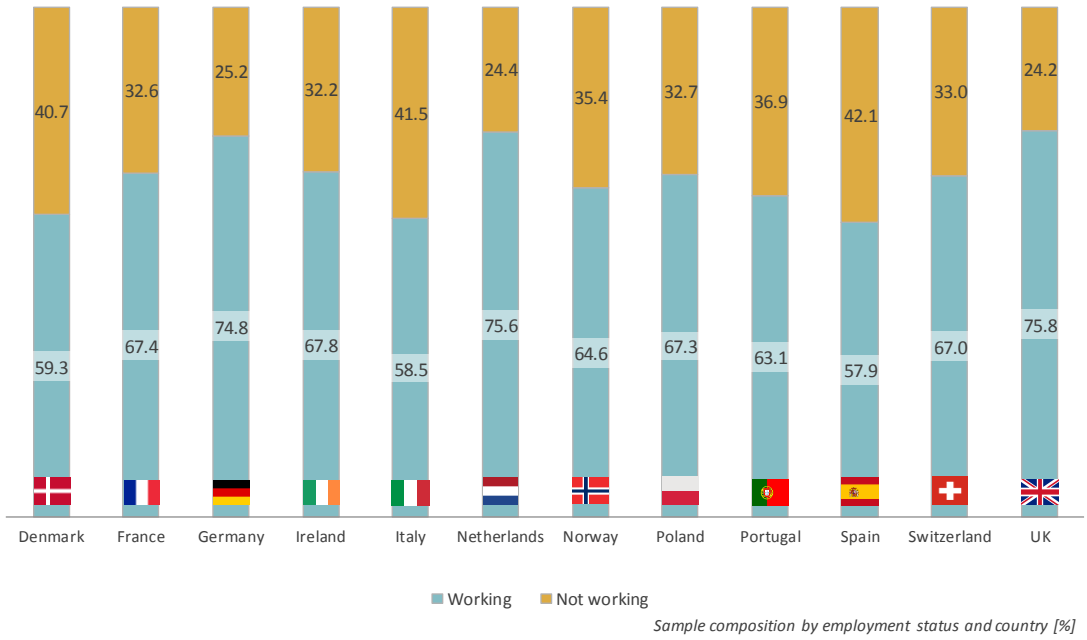

Figure 7: Working Status – Cross-Country Comparison

Education

In terms of education level, 42.4% of the overall sample have completed higher secondary education as their highest educational attainment. 24.5% of the sample hold a Bachelor's degree, 14.4% hold a Master's degree, and 2.6% hold a Doctorate or higher.

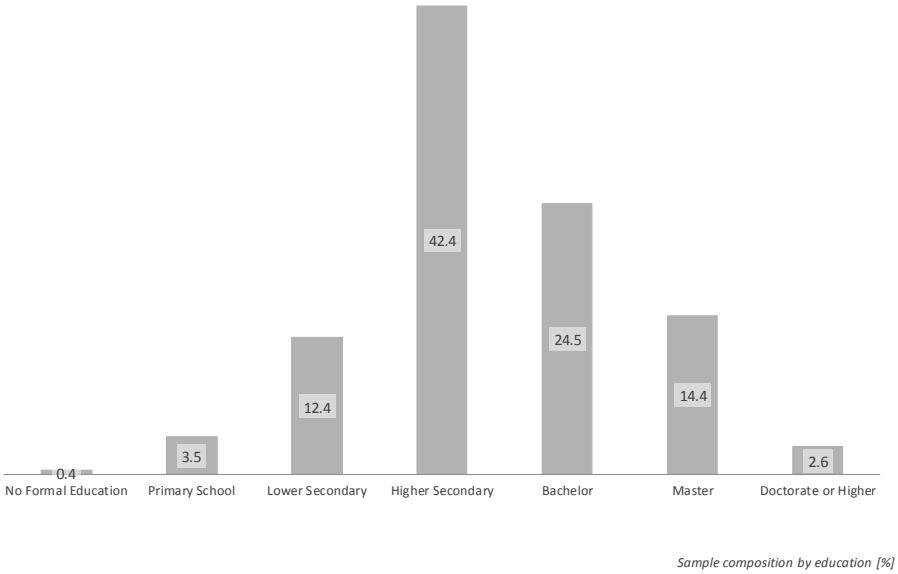

Figure 8: Education Level – All countries, in percent

	No formal Education	Primary School	Lower Secondary	Higher Secondary	Bachelor	Master	Doctorate or Higher
Denmark	1.8	25.1	13.2	23.1	24.7	9.7	2.4
France	0.4	1.0	9.4	44.0	25.7	9.7	2.4
Germany	0.4	0.4	27.8	48.8	7.4	13.2	2.0
Ireland	0.2	1.8	9.8	45.8	29.6	12.0	0.8
Italy	0	1.3	9.0	52.3	12.7	21.2	2.4
Netherlands	0	1.6	30.6	21.5	29.1	13.8	3.5
Norway	0	0	8.8	48.6	31.2	9.8	1.6
Poland	0	2.4	9.7	36.3	16.8	33.9	1.0
Portugal	0	0.8	5.2	47.3	34.5	10.8	1.4
Spain	0.4	4.3	11.4	37.1	33.3	11.2	2.2
Switzerland	0.6	2.6	6.9	61.9	12.1	7.9	8.1
UK	0.6	0.2	6.2	42.4	36.2	11.4	3.0
Total	0.4	3.5	12.4	42.4	24.5	14.4	2.6

Sample composition by education and country [%]

Table 2: Education – Cross-Country Comparison

Household Size

Within the sample, 18.9% of respondents live alone in a single household. The largest share of participants (31.5%) live in a household with two people. Roughly a quarter of the sample reports a household size of four or more people. Larger household sizes are relatively common in Poland, Ireland and Italy. Single households are more common in Germany, Switzerland, the Netherlands, and Scandinavia.

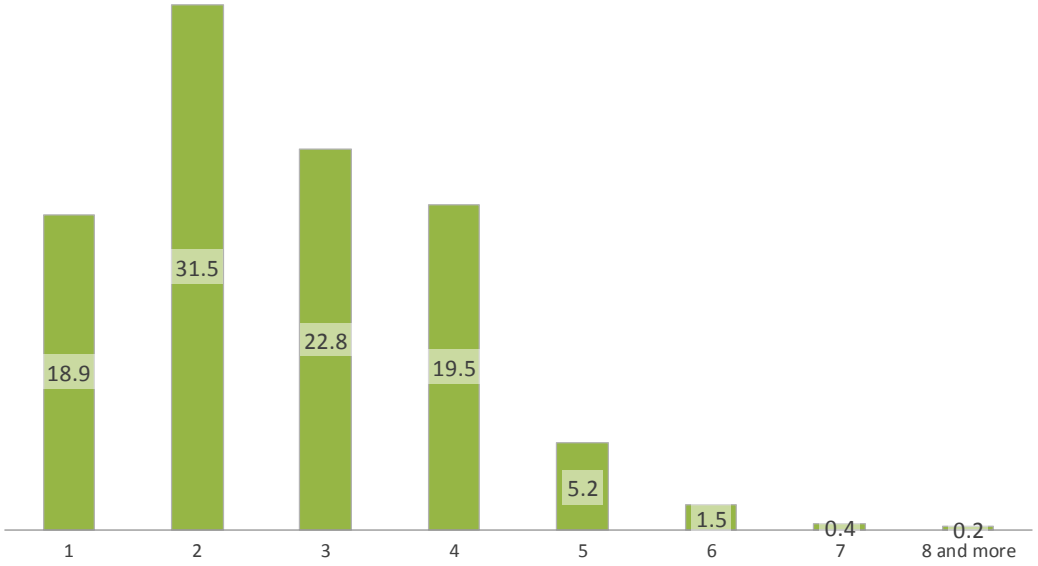

Figure 9: Household Size - All Countries, in percent

	1	2	3	4	5	6	7	8+
Denmark	30.8	33.8	16.8	12.3	4.3	1.6	0.2	0.2
France	20.6	31.8	21.8	18.1	5.3	1.8	0.4	0.2
Germany	28.4	37.0	17.6	13.4	2.2	0.8	0.2	0.4
Ireland	16.4	28.8	24.0	17.8	8.2	3.2	1.4	0.2
Italy	7.5	24.6	29.5	29.9	6.6	1.3	0.6	0
Netherlands	25.6	34.1	15.1	18.0	5.2	1.4	0.2	0.4
Norway	24.4	31.8	19.0	17.8	5.2	0.8	0.8	0.2
Poland	12.0	32.3	28.4	17.4	8.1	1.2	0.2	0.4
Portugal	10.8	29.5	30.1	25.1	3.0	1.4	0	0
Spain	9.0	24.5	31.6	28.5	5.6	0.7	0	0
Switzerland	24.5	33.6	18.8	17.4	3.6	1.6	0.4	0.2
UK	17.8	36.6	20.2	17.6	5.4	2.4	0	0
Total	18.9	31.5	22.8	19.5	5.2	1.5	0.4	0.2

Sample composition by household size and country [%]

Table 3: Household Size – Cross-Country Comparison

Region

Most participants (57.9%) live in urban areas. 27% of respondents report living in a rural area. The Swiss, Irish, and Dutch samples have a relatively large share of inhabitants in rural areas, whereas a relatively large segment of participants from Spain, Poland, and the UK report living in large cities.

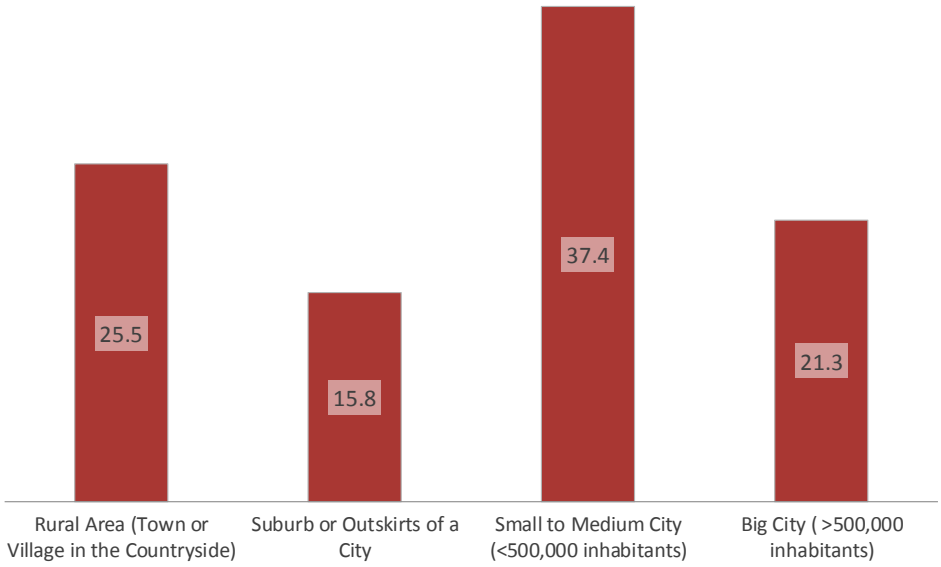

Figure 10: Region – All Countries, in percent

	Rural Area	Suburb or Outskirts	Small to Medium City	Big City
Denmark	25.5	15.8	37.4	21.3
France	35.0	17.5	33.2	14.3
Germany	25.2	12.4	40.6	21.8
Ireland	41.4	20.2	18.4	20.0
Italy	25.9	16.9	35.5	21.6
Netherlands	30.2	10.7	45.5	13.6
Norway	20.4	16.8	43.2	19.6
Poland	20.1	3.9	51.9	24.1
Portugal	18.8	17.6	41.9	21.8
Spain	14.6	6.7	49.3	29.4
Switzerland	37.5	18.6	35.2	8.7
UK	29.6	25.6	20.6	24.2
Total	27.0	15.2	37.8	20.1

Sample composition by region and country [%]

Table 4: Region – Cross-Country Comparison

Income

The most common income bracket in the sample is between an income between 20,000 and 29,999 EUR (16.5%), followed by the 30,000-39,999 EUR bracket (13.6%). Local currencies were compared based on the current exchange rates [August 2017]. To compare countries, the overall sample was divided into income quartiles. A large segment of the Polish, Portuguese, Italian, and Spanish samples belong to the first income quartile, while large segments of the Swiss, Danish, and Norwegian sample belong to the fourth income quartile.

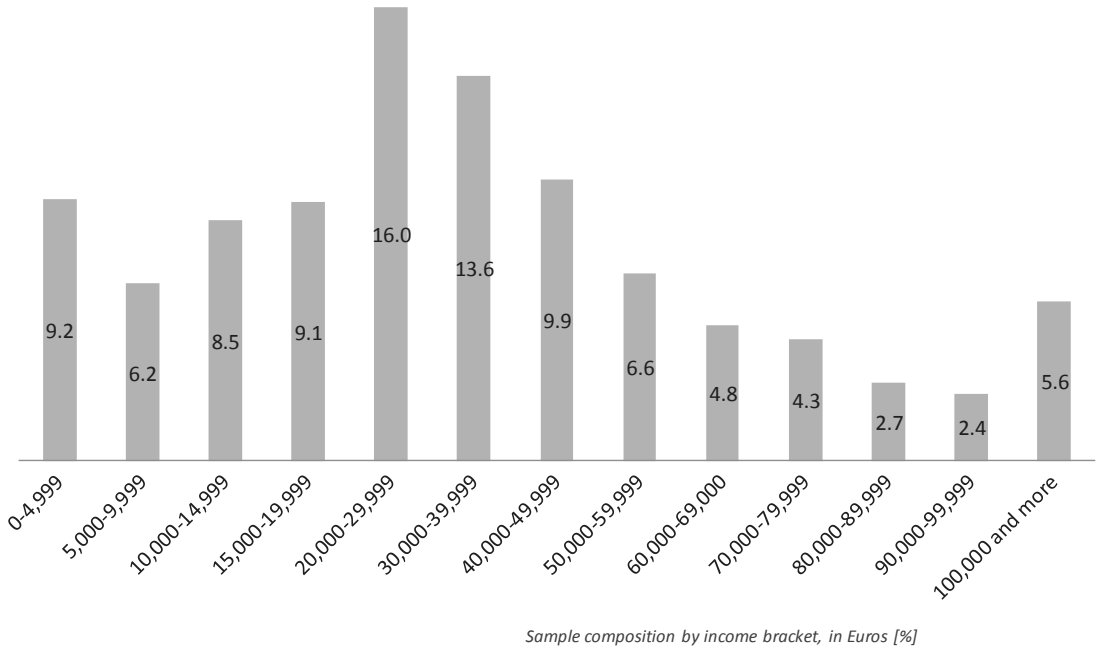

Figure 11: Income Brackets – All countries, in percent

	1. Quartile	2. Quartile	3. Quartile	4. Quartile
Denmark	11,5	16,8	19,4	52,3
France	16,1	33,4	36,4	14,1
Germany	16,7	23,6	28,4	31,3
Ireland	13,3	25,5	29,7	31,5
Italy	35,5	39,8	18,6	6,1
Netherlands	15,7	22,0	34,1	28,1
Norway	7,7	14,4	23,5	54,5
Poland	61,3	25,2	9,5	4,0
Portugal	46,8	34,7	15,2	3,3
Spain	28,5	37,2	25,1	9,1
Switzerland	21,4	6,4	11,6	60,6
UK	15,2	24,4	33,2	27,2
Total	**24,2**	**25,4**	**23,7**	**26,7**

Sample composition by income quartile and country [%]

Table 5: *Income Quartiles – Cross-Country Comparison, in percent*

User Type

Of the overall sample, 9.1% have provided services on a sharing platform, thus classed as 'providers'. 18.7% of the sample have only consumed sharing services, thus classed as 'consumers'. 62.5% of the sample have heard of sharing services, but never used them, thus classed as 'aware non-users'. 9.7% of the sample are not even aware of the existence of sharing platforms, thus classed as 'non-aware non-users'. The proportion of providers is relatively high within the French, Norwegian, and Polish samples, whereas the Dutch and Italian samples feature a relatively large segment of non-aware non-users.

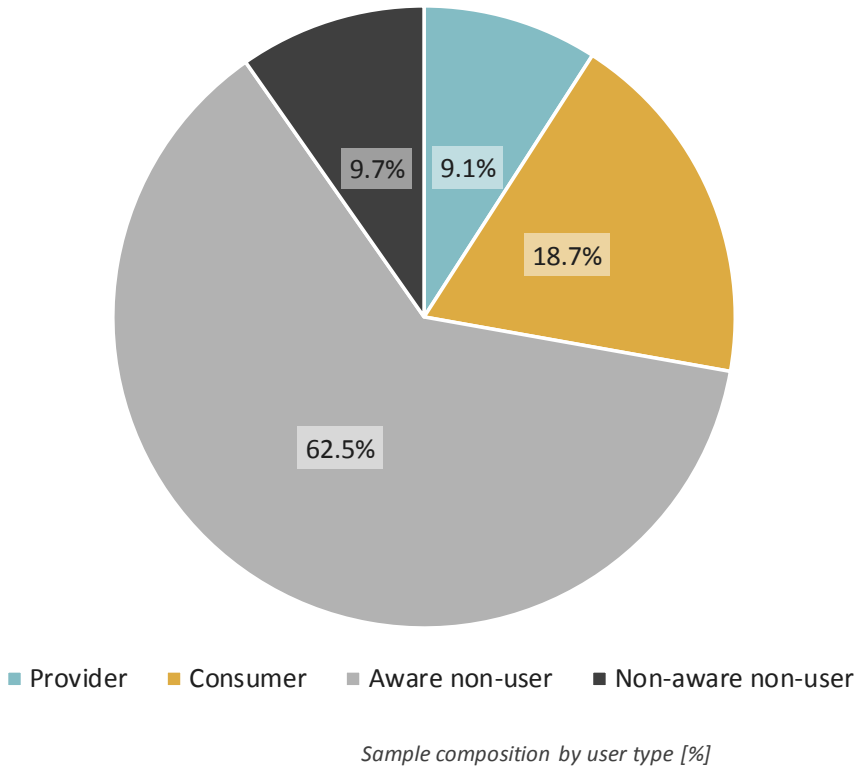

Figure 12: User Type – All Countries, in percent

	Provider	Consumer	Aware Non-User	Non-Aware Non-User
Denmark	9.9	14.6	62.5	13.0
France	15.7	24.6	56.6	3.1
Germany	9.4	15.4	64.0	11.2
Ireland	7.2	23.0	63.2	6.6
Italy	10.7	19.2	52.3	17.9
Netherlands	3.1	13.4	65.7	17.8
Norway	12.8	13.6	61.4	12.2
Poland	11.4	14.2	65.3	9.1
Portugal	5.2	17.6	74.5	2.8
Spain	10.1	19.3	65.9	4.7
Switzerland	8.3	21.3	59.7	10.7
UK	5.2	28.4	59.2	7.2
Total	**9.1**	**18.7**	**62.5**	**9.7**

Sample composition by user type and country [%]

Table 6: User Type – Cross-Country Comparison

Open Data and Data Re-Use

Ps2Share: Participation, Privacy, and Power in the Sharing Economy is part of the Horizon 2020 Open Research Data Pilot. The project management team has produced a data management plan as a separate deliverable, outlining the types of data collected, their storage, and re-use. Specifically, the data management plan addresses how the data is to be made FAIR: findable, accessible, interoperable, and re-usable. As a participating project of the Horizon 2020 Open Research Data Pilot, the quantitative data which the reports are based on, will be made openly available under an appropriate license, such as Creative Commons-By, after the end of the project.

The data will be made available through the project website in an accessible format such as CSV or XLSX on a request basis through an online form. In addition, we are publishing the data in at least one of the institutional repositories of a participating institution. Sufficient documentation will ensure that potential interested parties will be able to re-use the data quickly and efficiently.