Takeaway Trust: A market data perspective on reputation portability in electronic commerce

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Abstract

Reputation has become a key factor within today's online platform landscape. In particular for sellers in electronic commerce, the management of reputation as a signal of trustworthiness has become a relevant business activity. Prior studies have focused on either the role of reputation within given (but platform-bound) environments or general data portability between platforms. The question of cross-platform reputation portability, however, has thus far achieved much less attention. With this exploratory work, we present survey data on consumers' perception of portable reputation in the platform economy and a case study based on actual (seller) market data from an e-commerce marketplace. Our results show that consumers are generally receptive for imported seller reputation. However, for seller ratings to function as an effective signaling device across platform boundaries, adequate means of representation have yet to be found.

1. Introduction

The management of reputation and digital identity has become imperative for any business that attempts to sell products and/or services online [1]. On electronic commerce platforms such as Amazon, eBay, Gumtree, or Bonanza, sellers build an online reputation based on evaluations of prior customers. Importantly, sellers *rely* on this reputation since it greatly determines their capability of 1) enforcing profitable prices and 2) attracting demand [1], [2].

It is quite common that sellers are active on multiple platforms ("multi-homing") and, in this case have to manage each reputation separately [2]–[4]. Building up such a reputation as a signal of trustworthiness towards prospective buyers requires effort and is costly [5]. Especially when starting to sell through a new channel, the lack of reputation may represent a crucial barrier for economic success since, from the buyers' perspective, such sellers represent dark horses with no credible track record on the platform, a phenomenon which is also referred to as the "cold-start" problem [6].

This raises the question whether the reputation a seller acquires in one platform represents a valuable signal of trustworthiness when imported on another platform. In other words – and put as a concise research question:

RQ: *Can sellers with little or no reputation on a platform draw on existing ratings from another platform to their benefit?*

With this exploratory work, we address buyers' perceptions and sellers' economic implications of such cross-platform reputation portability. Until now, research has devoted broad attention to either a) the roles of trust and reputation within the confines of a given platform environment [7], [8] or b) the general concept of cross-platform data portability [9], [10]. Overall, there is still an evident gap of empirical work on the portability of reputation between platforms.

With this work, we seek to address this gap. We do so by considering 1) the perception of imported reputation from the buyer perspective (Study 1; Survey) and 2) the effectiveness of imported reputation based on actual market data from an e-commerce platform (Study 2; Empirical Data). In a nutshell, our results show that e-commerce customers state to be receptive for imported reputation in general. Specifically, they value the additional information for increased levels of reliability and consistency in provider ratings—indicating their good (or maybe not so good) online behavior across a range of sources. Looking at actual market data, however, we observe a more intricate picture. While a large fraction of sellers makes in fact use of reputation import and substantially increases rating scores by this, it does not seem to be converted into tangible economic results. Quite to the contrary, we observe that reputation imports and the resulting improved rating scores are associated with less demand and lower prices. We discuss these peculiar findings in view of the rapid

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proliferation of the platform economy and alternative approaches to reputation management (e.g., third-party services, decentralized technology).

The remainder of this paper is organized as follows. We describe the general idea of cross-platform reputation portability and review existing work on this subject in Section 2. Section 3 then reports the results of an online survey in which we roughly assess the potential of reputation portability from the consumer perspective. We then analyze a real-world case of reputation import based on market data from 4,506 sellers of an e-commerce platform in Section 4. Section 5 provides a general discussion of our findings—linking them to current developments in policy making and technology. Section 6 concludes.

2. Related Work

2.1 Trust and reputation on platforms

Today's online platform landscape is ubiquitous, transforming almost every industry, and pervading many levels of modern economic activity [11], [12]. Digital platforms, such as Amazon, eBay, Taobao, and others mediate transactions between sellers and buyers by providing them with means to exchange goods and services online. For a platform business to thrive, the willingness of buyers and sellers to engage in transactions is imperative. For this to happen, the most important antecedent is the establishment and maintenance of trust between prospective transaction partners. Hence, trust and reputation have been a popular research objects within and across platform ecosystems over the past decades [1], [7].

In the context of digital platforms, a seller's reputation is usually referred to as the accumulated and documented evaluation by prior transaction partners based on their experiences with this seller [13]. Reputation systems aggregate transaction-based feedback into individual buyers' rating scores to function, inter alia, as a signal of trustworthiness [2], [14], [15]. Since their introduction in electronic commerce, reputation systems have been designed and developed to insert trust in online transactions by providing "future buyers with a window into a seller's past behavior with previous buyers" [1, p. 326]. Besides the use of reputation systems to aggregate third-party assessments, today, all major platforms deploy a variety of trust-enhancing mechanisms that allow users (e.g., buyers, sellers, hosts, renters, etc.) to showcase a track-record for reputable online conduct [16]. Yet, feedback by others, that is, third-party ratings (e.g., 1-5 stars, positive/negative) or written assessment (i.e., text reviews) still represents the most frequently used signals to demonstrate trustworthiness in digital environments [4], [17].

There is a wide range of studies on the effects of these reputational elements within a given platform environment—both regarding their impact on buyers' perceptions of a seller's trustworthiness and, in turn, on the implied economics of seller reputation. First, ratings and reviews have been shown to positively influence buyers' trust in prospective sellers in a variety of platform contexts. For instance, for previous buyers' comments on eBay [7] or, similarly, written feedback from prior transaction partners on sharing economy platforms [18], [19], as well as for star ratings and text reviews on Airbnb [20], [21],

Second, a plethora of research investigates the resulting economic effects of higher trustworthiness, namely, the intuitive theoretical claim that it both drives demand/bids from potential buyers and allows sellers to set and enforce higher prices. We refer to Bajari & Hortaçsu [22], Dellarocas et al. [2], and Tadelis [1] for more comprehensive overviews of studies reporting empirical evidence for higher sales probability and price premiums obtained by more reputable sellers.

2.2 Reputation portability

Reputation portability can be defined as "the effectiveness of a user's reputation on a source platform (e.g., a star rating score) in building trust on a different platform" [4, p. 231]. Considering the documented effects of reputation within a specific marketplace and the increasing "platformization" of our world, it seems natural to ask questions regarding the permeability of online reputation across platform borders—especially, since the idea of portable reputation is anything but new.

In the 1990s, eBay and Amazon introduced early versions of reputation systems and—for some time—Amazon allowed its sellers to directly import their ratings from eBay [14]. Back then, it seemed as though this might become a common practice, however, apparently eBay was not appreciative of the fact. Upon claims of their ratings being proprietary accompanied by legal threats, Amazon had to discontinue the service [2].

There is a lively debate among legal scholars with regard to the ownership of transaction-based feedback in the form of reviews—and hence regarding its ability to be ported between platforms. In 2018, the EU introduced the *General Data Protection Regulation* (GDPR) in an effort to foster and enable unprecedented competition in online markets by breaking the monopoly of incumbents and large platforms [23]. In fact, GPDR's Article 20 mandates

platform operators to grant "data subjects" the explicit right to data portability. Note that any individual who provides data to the platform is subject to the regulation, that is, both buyers and sellers. Legal scholars have welcomed the new legislation as a promising step and strong tool to allow for increased competition between digital platforms and give individuals more control over personal data [24], [25]. However, given a lack of clear interpretations it needs to be clarified what type of data is supposed to be ported from one platform to another [9], [26]—and if GDPR in its current form encompasses reputational information. Reputation data (both in the form of text reviews and ratings) is usually provided by others, that is, prior transaction partners, in particular buyers. In the case of text reviews, Kathuria & Lai [25] conclude that ownership would most likely be with the author or the platform—but not with the individual seller. Further, based on third-party (star) ratings, platforms calculate proprietary aggregated scores via their reputation systems. The exact scope of data encompassed by GDPR is certainly debatable, however, since sellers do not provide these rating themselves, Article 20 is unlikely to cover them either [27], [28]. Also, obligatory (or better yet: "forced") interoperability to design systems so that data portability is supported was taken out of the regulation—again following critical acclaims from the platforms themselves [10]. In anticipation of a prisoner's dilemma—even though platforms would win over sellers by offering reputation import, they may eventually weaken their position due to increased competition—Krämer [29] suggests large players may silently agree to *not* offer such functionality for direct competitors.

However unlikely that leading platforms will offer reputation import any time soon, the economic benefits for sellers and entrant platforms are apparent: for instance, avoidance of platform lock-in due to network effects, decreased switching cost, and mitigation of the "cold-start" problem without prior on-site reputation.

Somewhat surprisingly—given the reluctance of long-established platforms such as eBay and Amazon to offer reciprocal import functionality—it is still possible to have a seller's ratings ported from those platforms to newer, alternative e-commerce marketplaces. Bonanza and TrueGether, for instance, do promote the direct import of both Amazon and eBay ratings into sellers' profiles on their platform [30], [31]. On Bonanza, a seller's eBay rating (i.e., positive/neutral/negative) is translated into the equivalent value on a 5-star rating scheme (i.e., 5, 3, or 1 stars), while on TrueGether both the external rating as well as the corresponding feedback text are displayed. We analyze the dynamics of imported reputation on these platforms in the next section.

These practical approaches come well-supported by calls for reputation portability to become the gold standard. Resnick et al. [14] have made this remark almost two decades ago stating the difficulty stemming from "the lack of portability from system to system" (p. 48). More recently, Puschmann & Alt [32], in the context of sharing economy platforms, posed the question how users (from both market sides) may connect their various profiles to comprehensively manage their online identity. Following the same line of thought, a recent EU report identifies "cross-platform reputation portability" as an important concept to address issues of data ownership, prohibitive switching costs, lock-in effects, and platform competition [33]. Finally, Gans [34] suggests a broader notion of "identity portability" based on the artifacts used by platforms to generate reputation (i.e., ratings and reviews).

As much advocacy there may historically be, the hypothesized value of portable reputation has so far not been corroborated by empirical insight. There has been some quantitative work on the potential of previously earned reputational data to predict trustworthiness and future performance. However, this has either been based on social media data (as opposed to transaction-based reputation; [35]) or analysis was limited to different categories within the same platform [36].

Only recently, first studies have set out to investigate the effectiveness of portable reputation from the consumer's perspective [19], [37]. Otto et al. [37] use a controlled experiment to display imported ratings from Airbnb (a platform for peer-to-peer accommodation rental) to potential passengers on BlaBlaCar (a ridesharing platform). Based on self-reported scales, they find that imported signals positively impact trust in prospective drivers on the platform. Similarly, Zloteanu et al. [19] use a hypothetical scenario and present study participants with different types of trust and reputation information ("TRI")—among which "online market reputation" denotes imported ratings from other platforms (in this case Airbnb and Uber). They find that the availability of TRI increases the perceptions of prospective hosts' trustworthiness as well as participants willingness to book a stay. However, it is neither possible to attribute this effect entirely to imported ratings nor to assess the latter's general importance from a consumer perspective, since the authors did not explicitly control for it (or chose to not report it). Teubner et al. [4] use survey data to emphasize today's platform multiplicity. They show that almost two out of three respondents are active on more than one platform,

underlining their claim for the relevance of "reputation transfer". Following up on this, Teubner et al. [38] show that star ratings bear trust-building potential also across platform boundaries for several platforms (i.e., Airbnb, BlaBlaCar, eBay, Uber) and that thematic *fit* between source and target context is an important criterion for cross-platform signaling to be effective. For a comprehensive literature review on reputation portability, we refer to Hesse & Teubner [39].

Overall, the outlined studies unanimously find reputation portability to be effective, however they all rely on survey data, that is, on self-reported scales and assessments made by the participants. Given that such approaches are prone to intention-behavior gaps [40], we complement this view by additional data-based insights into the workings of portable reputation. In the next section, we report the results from a consumer survey on perceptions of portable reputation. We then explore the effects of reputation imports based on actual market data (Bonanza.com). This allows us to empirically assess the impact of imported reputation on sellers' ability to a) attract demand and b) enforce higher prices—and come to a surprising result. To the best of our knowledge, this paper is the first to do so.

3. A survey on portable reputation

3.1 Study design and data

In the first study, we conducted an online survey in which participants evaluated different means of online reputation and trust. Specifically, participants took the role of buyers and evaluated the concept of sellers with imported ratings and/or reviews. We recruited 204 participants via Prolific.ac [41], ensuring respondents had sufficient experience in online shopping on electronic commerce platforms (i.e., at least once a month) and represented a diverse global audience (i.e., Northern America, EU, Middle East). A total of 187 participants remained after attention and completeness checks. Using a between-subjects design, participants were assigned to scenarios on five different types of online platforms: accommodation (e.g., Airbnb, Homestay), P2P carsharing (e.g., easyCarClub, Getaround), crowd work (e.g., TaskRabbit, Helpling), e-commerce (e.g., eBay, Bonanza), and mobility (e.g., Uber, Lyft). Based on our previous work on the subject [4], [38], [39], we introduced the concept of reputation portability as the availability of additional reputation elements (i.e., star ratings and text reviews)—pertaining to a prospective provider but stemming from a different platform. Participants then rated the importance of these additional trust cues in deciding to buy from a prospective provider (single item construct; 7-point Likert scales). We added an open-ended question asking why (if at all) and in which cases subjects considered imported reputation to be helpful for their decision process. These textual statements were reviewed to identify distinct aspects mentioned by participants (e.g., importance of fit between platforms; helpfulness for new providers). The survey was conducted in May 2019.

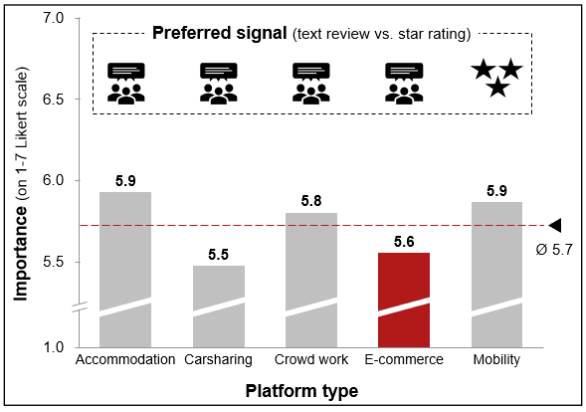

Figure 1. Importance of portable reputation and preferred signal for import

3.2 Results

Figure 1 summarizes the results of the survey and shows platform-specific differences. It becomes evident that respondents generally value the concept of reputation portability for e-commerce, scoring 5.6 on the importance Likert scale (1 to 7; corresponding to 76.67% when standardized). Remarkably, other platform types (i.e., accommodation, crowd work, mobility) exhibit higher scores for imported reputation. One potential explanation for these differences may root in the fact that those platforms facilitate co-sharing and physical encounters are prerequisite to service provision, that is, there occurs a generally higher degree of social interaction [42]. Hence, they may require higher levels of "inserted" trust from external sources.

Another observation concerns the preferred trust signal survey participants would like to see being imported from other platforms. Here, participants appreciated written text reviews over star ratings on all platforms except those for mobility services.

The reason for that can be found in the verbal statements. Participants were asked to comment *whether*, *why*, and *how* (i.e., under which circumstances) imported reputation would be helpful to them. As for their preference for text reviews, some participants mentioned star rating scale skewness as a limiting factor ("people usually assign stars/points in extremes"). In fact, positively skewed star rating

distributions represent a common phenomenon for many online platforms [16], [43], [44]. In that sense, text reviews appealed as "more informative" and to provide a "clearer picture".

Main reasons in favor of imported reputation were the general surplus of details (e.g., "the more information the better"; 30 times), the ability to prove a provider's good (or bad) conduct on other platforms (26 times), or the opportunity to check on consistency/reliability of ratings (e.g., could be "bought", "fake", fabricated", or "written by oneself"; 20 times). In particular, imported reputation was considered as potentially helpful as it allows novel providers with no or little on-site reputation to mitigate the platform-inherent cold-start problem (18 times). Specifically, one respondent stated that reputation portability could help in demonstrating an "honest online footprint".

Additionally, the issue of sellers getting rid of "a string of bad reviews" and "play[ing] the system by using another platform" was repeatedly brought up (15 times). That is, consumers would want the critical reviews from other platforms to show up. In this sense, it could prevent bad actors from successfully continuing their poor game by starting over and over on new platforms.

Last, the relevance of the fit between source and target platforms for porting reputation received considerable attention (14 times). On the one hand, participants noted that the source platform should be well-known, reputable, and trustworthy itself to instill confidence in the ratings' reliability and credibility. On the other hand, the service offering on source and target platforms should be compatible and relevant to each other because, as one participant neatly put it, "a fishmonger is not a good butcher" – an observation well in line with recent research [38].

4. Reputation import on Bonanza.com

4.1. Study Design and Data

In this second study, we follow up the first study's findings and investigate how importing reputation affects sellers' market success, that is, their capability to 1) enforce price mark-ups and 2) attract demand. In this sense, we now investigate the overall effect of the reputation import strategy from an empirical perspective, that is, based on actual market data. Naturally, this approach is limited to uncovering *that* certain effects occur but cannot speak to *how* or *why* specifically they may appear. Thus, our approach is prone to issues of observational studies such as omitted variables which we come back to it in the general discussion.

We collected data from Bonanza.com, an e-commerce platform that markets itself as an eBay alternative. It targets business sellers, being a "marketplace that empowers entrepreneurs to build a sustainable business based on repeat customers" [45]. Founded in 2008, the platform hosts about 50,000 registered sellers with an overall inventory of 35 million items. Using a web-crawler to query the platform, we collected openly accessible data for a total of 4,506 sellers and 124,067 items. The data was collected at two instances in April and May 2019.

For analysis, we consider individual sellers. For each seller, we consider data on i) overall rating score (1-5 stars in steps of 0.1 stars), ii) average price of their items, iii) number of transactions on the platform, and iv) whether they have imported ratings from eBay or not (binary variable: yes/no). Moreover, we retrieved information on how many items a seller offers through the platform as well as their total number of reviews as an approximation of business size.

The first pass of data collection in April 2019 was followed by a second pass four weeks later. This longitudinal data structure allows us to account for

Table 1. OLS regression models (standard errors in parentheses)

	i. Score	ii. Price			iii. Demand		
Imported Reviews (y/n)	.450 ***	-.314		.914	-.681 ***		-.459 **
	(.016)	(.783)		(.846)	(.144)		(.156)
Score (1-5)			-2.431 ***	-2.727 ***		-.641 ***	-.492 ***
			(.664)	(.718)		(.123)	(.133)
#Reviews (10^3)	.001 *	-.073 ***	-.068 **	-.070 **	.019 ***	.019 ***	.020 ***
	(.000)	(.021)	(.021)	(.021)	(.004)	(.004)	(.004)
#Items (10^3)	-.002 **	.124 ***	.117 ***	.118 ***	.098 ***	.097 ***	.097 ***
	(.001)	(.033)	(.033)	(.033)	(.006)	(.006)	(.006)
Intercept	4.519 ***	19.519 ***	31.236 ***	31.844 ***	1.570 ***	4.101 ***	3.796 ***
	(.016)	(.761)	(3.286)	(3.334)	(.140)	(.607)	(.615)
#Observations	4,506	4,506	4,506	4,506	4,506	4,506	4,506
R^2	.152	.005	.008	.008	.077	.078	.080

*** p<.001; ** p<.01; * p<.05

sellers' capability of generating additional sales, that is, of attracting demand (i.e., delta between t=2 and t=1), as a result of their rating score in t=1. Specifically, in contrast to "snapshot" data at only one single point of time, this approach reduces endogeneity issues which make inferences on causal effects notoriously difficult. The data can be characterized as follows:

i. The *Score* reflects a seller's average star rating score (1-5 stars). Without import (n=270): 4.52 stars; with import (n=4,236): 4.97 stars.
ii. The *Price* represents a seller's average price across their items (without import: 19.82$; with import: 19.22$).
iii. *Demand* describes a seller's number of new transactions over the 4 weeks between data collection 1 and 2 (without import: 1.81; with import: 1.12).
iv. Average number of *Reviews*
    a. On Bonanza (without import: 21.85; with import: 9.85)
    b. Imported from eBay (without import: 0; with import: 2,803)

4.2. Results

Overall, 94% of sellers import reputation. And for 9 out of 10 sellers who import reputation, the imported ratings make up for more than 95% of their total number of ratings. Now, in order to further understand the specific characteristics of and differences between sellers with and without reputation imports, we conduct a series of OSL regressions on the above-mentioned focus variables. Table 1 summarizes the regression models for the three dependent variables *Score* (Model I), *Price* (Models II-IV), and *Demand* (Models V-VII) based on observed values from 4,506 sellers on Bonanza.com. First, confirming the observation from above, average rating scores are significantly higher for sellers *with* imported ratings by about half a star (b=.450, p<.001). Moreover, controlling for a seller's characteristics shows that the respective number of ratings and items have significant (but minuscule) effects on rating score (b=.001, p<.05; b=-.002; p<.01; per thousand ratings/items each).

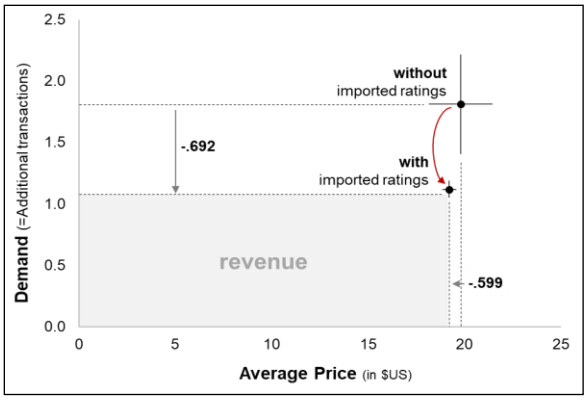

Figure 2. Revenue difference decomposition

Next, to assess the economic effect of importing/ not importing reputation, we consider regression models for price and demand. The price models show that higher star rating scores are *negatively* related to average prices (b=-2.727, p<.001) and that, beyond this, importing reviews has no significant price effect (b=.914, *n.s.*). Next, also the demand regressions show that higher star rating scores are negatively related to demand, that is, the number of sales a seller had between the two points of observation (b=-.492, p<.001). Importantly, we observe that beyond this rating score effect, there occurs an additional negative effect based on importing itself (b=-.459, p<.01). Thus, even for identical rating scores, sellers who have imported ratings attract less additional demand as compared to sellers who did not import.

Overall, these observations are puzzling, to say the least. The negative relation between higher rating scores and prices/ demand is counter-intuitive from a common-sense perspective and inconsistent with theory and most of the literature. There exist, however, some studies that report similar negative relations between reputation and economic indicators [2] and we offer some approaches of explanation in the general discussion. Importantly, when excluding the control variables from the models, none of the coefficients change in terms of sign, magnitude, or significance.

Now, as a seller's economic success can be well conflated by revenue (R), which emerges as the interaction of price (p) and demand (d). Hence, revenue can be graphically interpreted as the area of a rectangle with edges p and d, where $R=p \cdot d$. Figure 2 shows average prices and demand for sellers *with* versus *without* imported reputation (standard errors indicated by error bars in both dimensions). We see that the overall revenue difference between importing/ not importing reputation is primarily driven by the lower additional demand rather than by the difference of average prices (Figure 2).

5. General Discussion

Full transparency of previous online conduct across digital platforms—as appreciated by some of our survey participants—would entail far-reaching

implications. Having bad reviews showing up everywhere we interact online would pose a considerable threat to Western world liberal values. Along those lines, China is—as we speak—in fact implementing a national reputation scheme ("Social Credit System") that penalizes and rewards individuals and businesses [46], [47]. Importantly, the system explicitly includes online behavior such as electronic shopping and social media conduct. By 2020, it intends to assess every citizen nation-wide with a unique, standardized, and publicly ranked score. Although most Western observers reject these plans outright (e.g., as dystopian or "Orwellian"), others suggest that—with the ubiquity of digital platforms, predictive algorithms, and scoring mechanisms—the Western world is not too far away from the Chinese system of networked shame [48]. The EU will have to find its own position in dealing with this development. The GDPR currently grants individuals the *right to erasure* (also labeled as "right to be forgotten"; Article 17). This entitles them to have their personal data (stored by platforms) deleted. Whether this also pertains to any reputational data—provided by others as previously discussed—is still up to clarification.

However, cherry-picking only the best ratings to be ported from a given platform (or choosing just those platforms where one has collected good average ratings) seems unreasonable, too. To prevent this scenario of "takeaway trust" ad libitum, systems could be designed in a way that leaves the seller with a choice: either import all available reviews (full transparency) or none at all. In that sense, it would provide sellers with the discretional option to disclose their previous ratings [2]. This could create an incentive for impeccable online behavior and may be more in line with the foreseeable position of the EU between the US (*reputation capitalism*) and China (*reputation tyranny*) as providing a third way: *reputation sovereignty*.

We also learned that the source-target fit of a platform is of crucial importance when considering portable reputation (e.g., a great Airbnb host could be a nightmarish driver). Services might not be comparable across platforms and what is considered good in one environment may not be such a desirable treat in another [38]. Furthermore, ratings may hardly be comparable when, for instance, one platform exhibits skewness towards highly positive scores whereas another might show a much more dispersed rating distribution [16].

A puzzling market—As suggested by theory and common sense, there should be a positive relation between reputation and buyers' capability to attract demand as well as pricing power. However, there have also been findings in the opposite direction suggesting either limited effects of reputation or effects in the "wrong" direction [2]. For Bonanza.com, we also observe a negative relation between rating scores and demand/ prices. Importantly, this also holds when considering only sellers *without* imported reputation. Given these admittedly puzzling results, several (in parts rather speculative) approaches for explanation come to mind. While survey participants expressed a preference for text reviews as the to-be-imported signal, only star ratings are available which may impair their effect. Import functions may hence be extended to textual information too. Also, as shown by the cross-domain comparison (Figure 1), importing reputation is considered as *relatively* unimportant for platforms such as eBay/Bonanza as compared to other domains with higher degrees of social interaction. Thus, albeit being one of very few platforms on which reputation imports can be studied, Bonanza.com may not be the best or most promising venue to do so. In this sense, our findings may underestimate the potential benefits of reputation imports.

Also, a mechanism of reverse causality may cause "less expensive" sellers to be perceived as having a better price-value, which is why they, in turn, receive better reviews. Hence, rather than sellers' reputation forcing/allowing them to set lower/higher prices, the prices themselves may trigger biased ratings. This, however, is still at odds with most prior research on the economic effects of reputation, where, very broadly, positive effects are reported. Specifically, the latter rationale cannot explain why sellers with better reputation at a certain point in time receive less demand *subsequently*. Another explanation could be that Bonanza.com represents a secondary sales channel for many sellers through which they sell off their stock at discounts. Following this logic, especially large (and successful) eBay sellers may treat their Bonanza accounts with less care. To address this, a promising way forward could be to link the Bonanza profiles back to their eBay counterparts. In addition, a more frequent sampling of larger sets of Bonanza profiles could allow for a comparison of sellers before and after they have imported ratings, enabling difference-in-differences estimation or regression discontinuity designs. In view of our findings, one should critically ask whether importing large amounts (i.e., thousands) of ratings and reviews to a context in which typical sellers have only very few ratings, somehow disturbs the effectiveness of market signaling altogether. Last, issues could also root in the quite different group sizes of the "treatment/control" groups. Overall, given the exploratory nature of this work, it is far too early to draw stark theoretical

conclusions. Clearly, in light of the quite puzzling results and the outlined limitations of this study, more research based on larger data sets is needed to better understand the intricacies that govern reputation, price, and demand for reputation portability in general, and for Bonanza.com in particular.

Overall, our findings also prompt the question whether the cross-platform employment of reputation can and/or should be done differently. Should today's platforms, for instance, continue to forgo the implementation of user-friendly import mechanisms, Personal Information Management Services (PIMS) and blockchain technology may provide means to make reputation portability a more prevalent reality in the future.

Alternatives to direct import—Rather than drawing on direct "end-to-end" import, there may exist viable alternatives to realize portable reputation. For instance, PIMS as third-party services, aggregate and verify (reputational) data from disparate sources. Based on the combined data (e.g., ratings/reviews, verified social/professional accounts, personal IDs) these companies build individual trust-based data management tools, profiles, and dashboards. PIMS can best be understood as a data intermediary with the primary aim of putting people in control over their own reputation and digital identity [49]. However, such services have thus far been mostly unsuccessful with many failed attempts (e.g., trustcloud.com famust.com, peertru.st, tru.ly). Today, these services still struggle to develop profitable business models and to gain market recognition [4].

Likewise, several endeavors based on blockchain (more generally: distributed ledger) technology promise to empower individuals with more control over their data—irrespective of intermediaries [50], [51]. Indeed, the technology's potential for portable reputation lies in its ability to decentralize control and ownership over (reputational) data [52]. In that way, it could break today's siloed (i.e., platform-bound) approach to reputation in favor of alternative business models for cross-platform portability [53]. Especially, given the prevalence of "multi-homing" strategies with sellers/providers offering their services on several platforms, a blockchain-based marketplace could become a trusted, decentralized peer-to-peer network where participants retain full control over their data [52]. Reputation in these environments could seamlessly roam across platform boundaries since it could be verified with ease, reside with individual sellers, and be built across a range of markets. Catalini & Gans [54] envision this as an open reputation platform with the "ability to port and use the resulting reputation scores across different services and contexts" (p. 22). Eventually, combining PIMS' value proposition of self-sovereign identity management with technology to build decentralized platforms may just be the right approach in factually establishing portable reputation.

6. Conclusion

Digital platforms have become pervasive in basically all our daily lives. Specifically, two-sided platforms have emerged as a quasi-standard within electronic commerce. In view of the ever-increasing importance of this platform economy as well as its rules, mechanisms, and paradigms, we expect that reputation and specifically its fluidity will gain further importance for online businesses such as sellers on e-commerce marketplaces. With this first empirical account on actual reputation imports, we hope to contribute to and spark an ongoing scientific and public debate. Additionally, we expect the general topic of reputation portability to fuel a vivid legal discourse in view of privacy regulation, data sovereignty, and competition among *platfirms*.

7. References

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