An empirical analysis of supplier's trade-off behaviour in adopting digital supply chain financing solutions

Abstract

Purpose: Reverse factoring (RF) – a form of supply chain finance (SCF) – is widely recognised as a win-win for both buyers and suppliers. Still, there is evidence that suppliers are often hesitant to join RF programmes initiated by their buyers. This study advances our understanding of how suppliers assess the importance of various attributes of a buyer's offer to join RF and discusses the role of programme configuration and digital technology in overcoming impediments to RF adoption.

Design: Using a choice-based conjoint experimental design validated by experts, we isolate and manipulate the main attributes of a RF programme offer. This enables us to estimate the attributes' importance and to examine suppliers' trade-off behaviour. We complement the experimental study with content analysis of respondents' comments.

Findings: Our study reveals the importance of behavioural considerations in RF adoption. The main findings include that (a) suppliers are willing to reject offers that they perceive to be unfair even if these offers benefit them financially, (b) suppliers are willing to trade-off their financial benefit for non-financial reasons – most notably attributes that relate to trustworthiness of the buyer, and (c) suppliers expect technologies to increase transparency and reduce variability in trade processes.

Implications: Non-financial attributes that influence supplier perception need to be considered in the programme configuration. Technologies that reduce information asymmetry, increase trust and transparency, increase the speed of execution, and reduce process inefficiencies will have a positive impact on the likelihood of acceptance.

Originality: Our research opens new lines of inquiry on the role of digital technologies in influencing behavioural operations management specifically suppliers' adoption of digital SCF solutions.

Keywords: *Supply chain finance, reverse factoring, technology adoption, behavioural experiments*

1 Introduction

Reverse factoring (RF) – a form of Supply Chain Finance (SCF) aimed at improving inter-organisational financial flows – has received considerable attention in both academic and practitioner literature in recent years (Gelsomino *et al.*, 2016; Xu *et al.*, 2018). In contrast to ordinary factoring, RF is typically initiated by large creditworthy buyers that agree with financial service providers to purchase suppliers' invoices once they have been approved by buyers (Wuttke *et al.*, 2013; Caniato *et al.*, 2016). Suppliers can then receive their payments for approved invoices earlier while at the same time buyers extend their payment terms (cf. Caniato *et al.*, 2016; Wuttke *et al.*, 2019). These apparently contradicting terms are realised by collaborating with financial service providers that supply intermediate funding to meet the resulting gap (Gelsomino *et al.*, 2016). Quite often, RF programmes are enabled through digital transactions facilitated by financing solutions that organise the trade process (Liebl *et al.*, 2016; Wuttke *et al.*, 2019).

A central reason for the popularity of RF is that it creates financial benefits for all involved parties (i.e., buyers, suppliers, and financial service providers) by exploiting the differences in short-term financing cost between buyers and suppliers. Collaborating with financial services providers, the buyer essentially extends its own creditworthiness to its suppliers who, in turn, benefit from improved access to financing and reduced short-term financing costs (Lekkakos and Serrano, 2016; Liebl *et al.*, 2016). In return, the buyer is able to improve its financial performance by extending its payment terms as well as to reduce the upstream financial risk by providing liquidity (Caniato *et al.*, 2016; Liebl *et al.*, 2016), while the financial service provider earns income through interest and/or fees charged for financing the transaction (Dello Iacono *et al.*, 2015). Besides the evident financial benefits, the growth of the RF market has also been driven by the deployment of innovative digital technologies that ease the supplier onboarding process and enable digitalised trade processes with increased visibility and flexibility in receivables management – thereby making the value proposition to join RF even more clear for suppliers (Caniato *et al.*, 2016). Not surprisingly, analysts are optimistic about the RF market, which is estimated to be $2 trillion in finance payables and $20 billion in fees (Herath, 2015; Credit Suisse, 2019).

However, despite the financial benefits of RF and the dissemination of financing solutions enabling more efficient digital trade processes, evidence shows that suppliers are often reluctant to accept buyers' offers and many programmes fall behind in their onboarding schedules (Herath, 2015; Liebl *et al*. 2016; Wuttke *et al*. 2016). Practitioner and academic surveys on this topic show that the underlying reasons for the lower-than-expected uptake by suppliers emerge from a complex set of financial and non-financial attributes that are driven by supplier's perceptions of the RF programmes (Wuttke *et al.*, 2019, Herath, 2015). For instance, Liebl *et al.* (2016) identify the following considerations from the suppliers' point of view: (i) a trustful relationship with the buyer and the financial service provider, (ii) sufficient support at the implementation stage and (iii) a healthy relation between expected long-term benefits and implementation cost.

These studies provide an understanding of relevant attributes – but crucially, they do not account for how a supplier assesses the importance of different financial and non-financial attributes. This is particularly important as suppliers assess RF offers under conditions of limited information and uncertainty. While suppliers may have clear information about their own financial and processual benefits, they are likely to be motivated by their perceptions, as opposed to objective measures of other financial and non-financial attributes. Therefore, in this paper we take a more holistic view. Drawing upon the literature on fairness, coupling and trust in buyer-supplier relationships, we argue that a supplier's response to RF programme offers is not only motivated by their own financial benefits, but suppliers will also take into consideration their assessment of fairness of the offer, the strength of their coupling with the buyer, and their trust in the buyer – attributes of RF that have been relatively less researched in the RF context. Furthermore, we also explore the relative importance of these attributes for the supplier and how they perceive the benefits from digital technologies in RF adoption.

To empirically capture these considerations, we use a behavioural Choice-Based Conjoint (CBC) experimental design complemented by a content analysis of respondents' comments. Such an approach has three main advantages. First, by using a CBC experimental design to collect preference information, we develop a clearer understanding of how suppliers assess financial outcomes over other non-financial perceptions and rank these in order of relative importance. Second, we can predict

preferences for different offer combinations more precisely (Karniouchina *et al.*, 2009). Third, this design allows us to isolate the impact of onboarding effort – highlighting the role of digital technologies in the qualitative insights from the respondents. This not only enables us to test our theoretical arguments but also generates practical recommendations for buyers and financial service providers on how to improve supplier adoption rates.

2 Theoretical development and hypotheses

2.1 Review of the related RF literature

Given the popularity of RF, scholars have investigated different aspects of this financing scheme – both from finance and supply chain perspectives (e.g., see the recent literature reviews by Gelsomino *et al.* (2016) and Xu *et al.* (2018)). Several papers within this literature stream have studied the key motivations for buyers to propose RF, namely a) extending payment terms of the buyer, b) reducing the risk of supplier default and c) simplifying and digitalising the trade process (see for example Liebl *et al.* 2016 or Caniato *et al.*, 2016). There is also significant emphasis on the suppliers' benefits of using RF. For example, Lekkakos and Serrano (2016) point out that suppliers benefit from RF adoption by freeing up large amounts of working capital and realising higher operational performance at a lower cost. Moreover, Caniato *et al.* (2016) highlight that innovative RF solutions facilitate trade process digitalisation which allows for significant cost savings, enhanced visibility and increased flexibility. Significant scholarly attention has been devoted towards quantifying these benefits of RF adoption (see e.g., Van der Vliet *et al.* (2015); Kouvelis and Xu (2019); Wu *et al.* (2019)).

Despite the evident financial and processual benefits for buyers and suppliers, research shows that suppliers are often hesitant in adopting the RF terms as their onboarding decisions are influenced by several other attributes. For instance, Seifert and Seifert (2011) highlight the importance of communicating and clarifying the value proposition and report that many buyers face difficulties in convincing suppliers to onboard their programmes as suppliers would rather accept late payments than being involved in programmes that are perceived as inflexible, complex and opaque.

From a relational perspective, Wuttke *et al*. (2013) confirm that when introducing RF, buyers need to clarify its benefits to overcome resistance and increase onboarding effectiveness. While the attainable financial and processual benefits are specific to the supplying organisation, relational trust, coercive power and obtrusive communication are related to the strength of the relationship between the buyer and the supplier which positively impacts the supplier's adoption likelihood and affects the means required to persuade suppliers. More recently, Wuttke *et al*. (2019) have studied the efficiency and legitimacy motives as drivers of supplier adoption speed. They find that suppliers with limited access to financing and larger reductions in financing cost tend to adopt SCF faster. Their results also suggest that mimetic and normative pressures accelerate suppliers' adoption, while coercive pressure does not seem to affect supplier adoption speed.

A supplier's decision to join RF is also influenced by various moderating effects. Caniato *et al*. (2016) link the objectives for adopting SCF solutions with several moderating factors including the level of bargaining power and collaboration, process digitalisation as well as the characteristics of the financial service provider. They find that the adoption of SCF solutions is positively affected by high bargaining power of the firm initiating SCF, collaboration between the involved firms and high levels of process digitalisation. Similarly, Liebl *et al*. (2016) explore objectives, antecedents and barriers to RF implementation. They find that from the suppliers' perspective a long-term trustful relationship with the buyer and its financial service provider as well as acceptable setup cost attained through a seamless programme implementation with efficient adaptation to the existing IT-infrastructures were seen as critical success factors.

At the macro-level, Dello Iacono *et al*. (2015) point out that the adoption rate is influenced by the financial benefit of RF programmes that cannot be considered static. It is sensitive to dynamic factors including interest rates, receivables volumes and working capital requirements. They argue that the suppliers' attainable financial benefits depend on specific economic conditions that vary over time as supply chains face shifts in receivables volumes caused by periods of economic growth and recession. In similar vein, Wuttke *et al*. (2016) explore diffusion process, to obtain an understanding of a buyer's optimal programme setup with regard to programme launch and payment terms.

While our conceptual understanding of the attributes that influence RF adoption is improving, as Caniato *et al.* (2019) point out, there is still a need for more empirical evidence in the SCF literature – specifically in RF. Furthermore, most of the existing studies have addressed the issue mostly from the buyer's perspective, often neglecting suppliers – who ultimately decide whether to adopt RF or not. Our aim is to address this call for empirical evidence from a supplier's perspective, especially highlighting the behavioural considerations. We provide a better understanding of the relative importance of financial benefits and non-financial objectives for suppliers. To the best of our knowledge, this is the first behavioural experiment analysing RF adoption.

2.2 Behavioural influences of RF adoption

As RF programmes are usually buyer-driven initiatives, suppliers face the problem of information asymmetry i.e., the situation that the buyer has greater material knowledge of the transaction. Our review shows that as suppliers often hesitate to accept RF offers they are indeed subject to idiosyncratic interpretation of the benefits and risks arising from the information asymmetry. In this section, we develop our theoretical reasoning to propose that suppliers' decision to join RF is influenced by their considerations of fairness of the offer, the strength of coupling with the buyer, and the trustworthiness of the buyer.

2.2.1 Fairness

A central theme governing financial considerations is rational expectations, i.e., the view that a supplier would favourably consider offers that improve their access to financing and reduce their financing cost (Wuttke *et al*. 2019). Since RF extends the buyer's financing terms to the supplier, the supplier can reduce its cost of financing by adopting RF. Joining RF not only provides suppliers access to financing but also offers greater liquidity in their supply chain (Lekkakos and Serrano, 2016). Therefore, this stream of literature proposes that – following rational expectations – a supplier would favourably consider offers to join RF due to the financial gains attainable.

However, in practice we find significant heterogeneity in adoption rates that indicate suppliers are not just motivated by their own financial gains. Behavioural economists propose a theoretical basis to understanding why suppliers may reject RF offers even when they have a net financial benefit (Kahneman *et al*., 1986). This stream of literature proposes that decision-makers have a common desire to receive what they would consider their fair share of the financial surplus and also show a willingness to enforce it in the payment terms (Bolton, 1991). In the context of supply chain contracts, Katok and Pavlov (2013) argue that perceptions of fairness – often interchangeably used with 'justice' and 'inequality avoidance' – is a central reason for inefficiencies and even failures of buyer-supplier relationships. They show that under conditions of incomplete objective information about the buyer's degree of fairness in the offer, perceived fairness (or unfairness) is the main cause for suppliers rejecting contracts with buyers. This evidence builds on the research by Kahneman *et al*., (1986: 285) who empirically show that "profit-maximizing firms will have an incentive to act in a manner that is perceived as fair if the individuals with whom they deal are willing to resist unfair transactions and punish unfair firms at some cost to themselves".

More recently, Liu *et al*. (2012) have developed this concept and identify four dimensions of fairness that are relevant for supplier–buyer relationships. The first two dimensions are concerned with the formal procedures of equitable distribution of the surplus and termed as distributive and procedural fairness. The other dimensions are interpersonal and informational fairness – which are concerned with the social side of people's reactions during interpersonal and social interactions between the negotiators (Tyler and Bies, 1990). In our analysis we will focus on the first two dimensions of fairness as all suppliers receive the same offer terms and communication from a buyer, rather than personalized offers and communication.

Building on prior work in organizational psychology, Liu *et al*. (2012) propose distributive fairness refers to the decision-maker's perception of equitable distribution of the surplus amongst the involved parties. As joining RF generates a surplus that is divided between the buyer and supplier as per the payment terms of the offer, we would expect that suppliers are more likely to accept offers that they consider to be fair, but importantly they would reject the terms of offers that are perceived to be

unfair – even if the offer puts the supplier in a net positive position financially (Kahneman *et al*., 1986). In the context of RF, perception of distributive fairness is therefore influenced by a like-for-like comparison of the financial benefit for the buyer and the supplier. Therefore, keeping everything else equal, we would expect the likelihood of suppliers accepting offers to be positively correlated with perceived distributive fairness of the offer i.e., a larger share of surplus for themselves.

H1 (a): Perceived distributive fairness in payment terms is positively related to supplier's likelihood of accepting reverse factoring offers.

While distributive fairness is concerned with the distribution of the surplus between the buyer and the supplier, procedural fairness refers to the perception of the process by which the surplus is allocated i.e., if a supplier feels the benefits are worth the costs. Thibaut and Walker (1975) suggests that decision-makers are more likely to consider offers as fair – if they perceive that they have control over the process and if their efforts are duly rewarded. As has been shown by several case studies, RF programmes can entail considerable onboarding efforts from the suppliers. These emerge from (i) the required process reorganisation and digitalisation activities (cf. Caniato *et al*., 2016), (ii) the adaption of the tools to existing IT-infrastructures (cf. Liebl *et al*., 2016) and (iii) the required support during the implementation phase (cf. Liebl *et al*., 2016). While significant strides have been made to improve trade processes and ease supplier onboarding – a supplier may still have to invest efforts in streamlining its own management processes in line with the expectations of the RF solution in setting up a digitalised trade process. Suppliers' effort in onboarding also involves updating their knowledge of RF, investment in training, in some instances updating processes, and opening/ registering accounts. Studies show that depending on the maturity of the suppliers' processes, they may need some process redesign and ongoing management attention (Grüter and Wuttke, 2017). As a supplier invests some effort in onboarding, in turn it is likely to expect a better financial offer for its efforts (Kamas and Preston, 2012). Therefore, keeping everything else equal, we would expect suppliers with less onboarding effort to find an offer procedurally fairer and so more likely to accept it compared to supplier with greater onboarding effort.

H1 (b): Perceived procedural fairness due to lesser onboarding effort is positively related to supplier's likelihood of accepting reverse factoring offers.

2.2.2. Buyer-supplier coupling

Implementation of RF is typically accompanied by management effort and cost. Therefore, when a supplier accepts an offer it is also an indication of its strategic commitment towards the buyer (Liebl *et al*., 2016). Put differently, we would expect suppliers that already have a strategic commitment or intend to increase their strategic commitment towards a buyer to be more likely to accept the RF offer. The lens of coupling i.e., a situation in which actors such as buyers and suppliers are separate, but they are also connected and responsive to one another (Beekun and Glick, 2001) provides a theoretical basis to understand how a supplier assesses its relationship with a buyer to be strategic. This stream of literature suggests that coupling is created by various mechanisms and that it varies in strength along a continuum from loose to tight (Choi *et al*., 2009; Lui *et al*., 2012). In this context of buyer-supplier coupling this is created by (a) the duration of the relationship (b) interdependence due to the uniqueness of the supplier's goods (c) the supplier dependence on the buyer due to the share of revenue from the buyer.

Duration of the buyer-supplier relationship is one of the central mechanisms that create coupling – with a longer duration leading to stronger coupling (Capaldo,2007). Scholars point out that a longer buyer-supplier relationship often leads to the greater understanding and trust between the two parties that further reinforces the coupling strength (Dadzie *et al.*, 2018). Therefore, we would expect the likelihood of suppliers accepting offers to be positively correlated with the duration of the buyer-supplier relationship.

H2 (a): Coupling strength measured by duration of buyer-supplier relationship is positively related to supplier's likelihood of accepting reverse factoring offers.

Coupling can also be strengthened due to mutual dependence between the buyer and supplier – often assessed by the specificity of the goods supplied (Liebl *et al*., 2016). First, a supplier of unique goods typically sets up its processes to meet the unique requirements of the buyer and therefore would be

dependent on the buyer as they face higher switching costs for a new buyer (Tsuruta, 2013). Therefore, it's in the interest of the supplier to increase coupling and accept RF offers. Second, from the perspective of the buyer, if the goods are generic, the buyer can relatively easily replace the supplier compared to a supplier of more unique goods (Mateut, 2014). In fact, it is not uncommon to see buyers have suppliers of generic goods compete with one another to improve its own performance, e.g. by reducing cash-to-cash cycles, at the expense of the suppliers (Fabbri and Klapper, 2008). In contrast, a buyer would also have a greater interest in increasing coupling with a supplier of unique goods relative to a supplier of generic goods. Therefore, for mutual benefit, the supplier of more unique goods would be more likely to accept RF and increase the coupling strength with the buyer (Nair *et al.*, 2011; Fabbri and Klapper, 2016).

> *H2 (b): Coupling due to supplier's product uniqueness is positively related to supplier's likelihood of accepting reverse factoring offers.*

A supplier's dependence on the buyer is influenced by the sales volume of the respective buyer (Snyder, 1998). If a supplier generates a large share of its revenue from a buyer, the supplier dependence on the buyer is high and therefore it is likely to consider this relationship strategic. However, this feeling may not be reciprocal from the buyer's perspective – especially for large buyers. In such a situation a buyer has the possibility of exploiting their bargaining position and get more favourable payment terms. This behaviour is often seen amongst large buyers that take advantage of their bargaining position to extend payment terms (Summers and Wilson, 2003; Tsuruta, 2013). Therefore, we would expect suppliers that have a larger share of revenue from a buyer are more likely to accept RF offers as it increases the coupling strength with the buyer.

> *H2 (c): Coupling strength measured as supplier's share of revenue is positively related to supplier's likelihood of accepting reverse factoring offers.*

2.2.3 Trustworthiness of the buyer

Accepting RF not only commits the supplier to additional onboarding effort and a long-term relationship with a buyer – but it may also be financially risky in case the buyer aims to improve its own financial performance by extending payment terms while disregarding the effect for the supply chain (Caniato *et al*., 2016). This sense of risk is further accentuated by the information asymmetry in favour of the buyer (Sucky, 2006). Therefore, the supplier faces a significant challenge in ascertaining if the buyer is proposing a fair offer that generates value for all parties or if the buyer is proposing an offer that will seek to improve its own profitability – perhaps at the expense of the suppliers (Caniato *et al*., 2016). In this context the supplier's perceived trustworthiness of the buyer plays a central role in influencing offer acceptance.

There is a well-established stream of research highlighting the importance of trust between actors in improving supply chain performance and promoting long-term relationship (Barratt, 2004). It influences commitment (Dwyer *et al.*,1987) and propensity to stay in a relationship (Anderson and Weitz, 1989). While the operations management literature seems to emphasize that trust is more applicable at the inter-personal relationship (Huang et al., 2008), more recently, scholars have highlighted the importance of trust-based governance – in contrast to contract-based governance – at the inter-organizational level, especially for the success of dyadic relations. For instance, Vanneste and Yoo (2020) argue that trust-based governance at the inter-organizational level performs best in situations where behavioural risk is high, i.e., there is a large difference in the behaviour between a trustworthy and an untrustworthy partner.

In the context of RF, there are two central mechanisms that influence the supplier perception of the trustworthiness of the buyer. First, the buyer's reputation of dealing with its supplier is a key indication of the buyer's general practices (Caniato *et al*., 2016). In a study of industrial channel dyads, Ganesan (1994) finds that a retailer's favourable perception of a vendor's reputation leads to increased trust. Similarly, Anderson and Weitz (1989) find that a channel member's trust in a manufacturer is positively related to the manufacturer's reputation for fair dealings with channel members. In essence,

if a buyer has poor reputation then a supplier is more likely to distrust an offer, while if the buyer has a good reputation then the supplier is more likely to trust the offer and accept it. Therefore, we propose.

> *H3 (a): Trustworthiness of the buyer due to buyer's reputation is positively related to supplier's likelihood of accepting reverse factoring offers.*

Trustworthiness of the buyer can also be built on institutional reasons – especially due to mimetic and normative effects where suppliers copy the actions of other suppliers (Wuttke *et al*., 2019). This stream of reasoning argues that suppliers feel both mimetic and normative pressures as well as a sense of safety when accepting an offer if they know that other suppliers have accepted similar practices (Wuttke *et al.*, 2019).

> *H3 (b): Trustworthiness of the buyer due to other suppliers' acceptance of offers is positively related to supplier's likelihood of accepting reverse factoring offers.*

2.2.4 Relative importance of the attributes

From the supplier's perspective, the 'best' RF offer would have all the attributes at the most favourable level, e.g., the best payment terms, lowest onboarding effort, or being offered to join RF by a highly reputable buyer. But often the buyer does not offer all these benefits to the supplier. Instead, the buyer would have to carefully consider (i) which attributes it can control, (ii) which attributes are more important for the supplier and (iii) how attributes are traded-off. Here 'trade-off' by a supplier means the same acceptance rate by suppliers can be achieved with different combinations of attributes, which means for example that a RF offer that is less financially attractive can be accepted when coupling and trustworthiness are very high, or vice versa. This relative importance and trade-off analysis of the attributes will allow buyers to create RF offers that are likely to satisfy the expectations of enough suppliers and for buyers to achieve their own RF adoption target more optimally (Venkatesh *et al*, 2012).

As the primary benefit of the RF offer is financial, we would expect to see suppliers' assessment of fairness to be an important attribute. This is also the only attribute that is within the immediate control of the buyer – as it can change the offer terms to levels that are perceived to be fairer. For instance, the buyer can offer better payment terms or increase the onboarding support (e.g., offer training and implementation support) to improve distributive and procedural fairness respectively. But as the suppliers also derive utility from considerations of coupling and trustworthiness, we would expect to see a willingness to trade-off fairness for other onboarding conditions that they consider more (or less) favourable. However, unlike the attributes that contribute to fairness considerations – the buyer has limited influence in changing coupling or trust. For instance, the buyer can't change the coupling considerations: duration of the relationship, uniqueness of goods, size of the deal or the trust considerations: its reputation and other suppliers' acceptance of RF relatively easily or quickly. Therefore as part of the empirical context, we would also like to address the following research question:

> *What relative importance do suppliers give to considerations of distributive and procedural fairness; coupling with the buyer due to duration of relationship and relative dependence; and trustworthiness of the buyer due to reptation and other suppliers' behaviour when assessing reverse factoring offers?*

In the following sections we develop the methodology to test the hypotheses, to address the question of relative importance as well as to examine the suppliers' expectations of the influence of digital technologies.

3 Methodology

3.1 Research setting and share of financial benefits

To understand the distribution of financial benefits between the buyer and supplier, we consider the following setting (cf. Wuttke *et al*., 2013; Dello Iacono *et al*., 2015). In scenario 1, the supplier sells

goods and once they have been received, the buyer pays the full invoice amount as per the payment term days. Assuming an annual transaction value of GBP 10 million, and a scenario of 30 days payment term days (i.e., with 'net 30' payment terms, but without RF), the supplier would incur financing cost for the trade credit of GBP 83,333 if the supplier's cost of capital is 10% (i.e. GBP 10 million * 10% * 30/360 = GBP 83,333).

Now, consider scenario 2 in which the supplier joins the RF programme. The buyer benefits from an extension of payment terms while the supplier benefits from better access to financing by being paid early (10 days) and the reduced supply chain financing rate (1.5%) to finance the trade credit. If we consider the new payment term as 60 days under RF, the buyer's cashflow advantage is GBP 833,333 (i.e., delaying the payment by 30 days results in a cashflow advantage for the buyer of GBP 10 million*30/360= GBP 833,333), while the supplier's cost advantage relative to scenario 1 without RF is GBP 34,722 (i.e., the supplier pays interests of 10% over 10 days and 1.5% over 50 days instead of 10% over 30 days: GBP 10 million *(10%*10/360+1.5%*50/360-10%*30/360)) and its cashflow advantage is GBP 555,556 (i.e., advancing the payment by 20 of 360 days results in a cashflow advantage of GBP 10 million*20/360 = GBP 555,556) – assuming the supplier receives payment from the financial service provider 10 days after delivery required for invoice approval. Note that we assume the supplier doesn't know the buyer's interest rate with certainty, which is why we do not include the buyer's cost advantage in our experiment. While keeping all other variables constant (i.e. transaction value and interest rates), we only vary the extension in payment terms that are responsible for the distribution of the financial benefit between the two parties. Once the payment terms increase, the buyer benefits from increasing liquidity while the supplier's financing cost advantage reduces (note that there is an upper threshold for extending payment terms at which there is no financing cost advantage for the supplier). Thus, the buyer's share of the financial benefits increases in payment terms while the supplier's share decreases in payment terms which therefore can be considered a measure for the allocation of the relative benefits to each party. We acknowledge that our experimental setup does not capture the variety of different implementation options for reverse factoring as offered by financial institutions (such as flexible payment extensions). The main objective of our experimental setup,

however, is to better understand under which conditions suppliers are likely to accept a reverse factoring offer and how they trade off different attributes rather than elaborating on the optimal implementation options.

3.2 Choice-Based Conjoint (CBC) experimental design and measures

In our theoretical analysis, we have argued that the decision to join or not to join RF is not purely rational – based on objective financial calculations – but driven by behavioural perceptions of benefits and risks. The influence of such behavioural perceptions on decision making is common and so it's not surprising to see that behavioural experiments have become a popular research methodology in supply chain management research (Croson and Donohue, (2006)).

There are two main reasons why an experiment and specifically a Choice-Based Conjoint (CBC) design would be ideal in this context. First, by fully accepting the controlled environment of the CBC experimental set-up, we can isolate and regulate the attributes and levels of interest. This enables us to cover a wide range of combinations and identify the utility function of respondents. This also enables us to rank-order the importance of the various considerations. Second, the CBC enables us to ascertain trade-offs (Orme, 2010). Instead of asking respondents to make a one-off choice that is more common in survey-based approaches, a CBC design enables us to estimate how respondents value each attribute and level, and more importantly which attributes are they willing to trade-off to maximise their utility from this decision. Due to these methodological advantages, CBC designs are becoming more common in operations management research that aims to investigate decision-maker's choices involving trade-offs (Venkatesh *et al*, 2012; Banerjee *et al*., 2020).

We follow the directions of Rao (2014) in setting up our CBC design. To operationalize the measures of the research setting, we created an initial design based on our proposed scenarios. This design was then validated and updates with feedback from five industry experts, including executives from financial services providers, buyers, and a supplier. Table I shows the theoretical constructs, the attributes that operationalize the theoretical constructs in the context of RF, and the levels that we use

in the experiment. These were then used to generate orthogonal choice sets with three offers in each choice set and six choice sets per respondent. In each choice set, the respondent was asked to select the 'best' as well as the 'worst' offer from the three offers that are presented in each choice set, followed by a question to test if the respondent would have accepted the best offer that they just identified. This is a partial-profile choice-based conjoint design with 'Best-worst choice' response type and 'Dual-option none' response. Figure I shows an example of a single choice set that a respondent was shown. The design was created using the CBC software Sawtooth. Apart from the CBC, the survey contained a consent check, a 4.5 minute introductory video explaining RF, two attention check questions to ascertain that respondents have seen the video and have an adequate comprehension of the RF context, an additional attention check to confirm that the respondent paid attention while responding to the CBC questions as well as demographic questions about the respondent, especially their work experience.

Insert table I and figure I here

Our experimental design also included three open-ended questions to understand the respondents' decision-making criteria (i.e. criteria for ranking and accepting offers) and their expectations of the influence of digital technologies. We performed a content analysis of the technology-related text comments to shed light on the respondents' expectations towards operational improvements attainable by facilitating on-boarding and execution of technology-based RF programmes. Following a deductive approach (Krippendorff, 2018), that is commonly used to test existing concepts in a new context (Marshall and Rossman, 2015), text comments were classified in terms of established categories of productivity gains as outlined by the theory of *swift, even flow* (Schmenner and Swink, 1998). The theory of *swift, even flow* has been applied to assess the benefits of enterprise resource planning systems and intra-organizational technologies (see e.g., Bendoly and Kaefer, 2004) and provides a suitable framework for exploring the expected operational improvements from utilising technologies to facilitate the on-boarding and execution of RF programmes. Each

comment was assigned to one or multiple categories of productivity gains and coding disagreements were resolved by reaching consensus.

3.3 Participants

Participants for the CBC experiment were identified using the Prolific online research survey platform. To ensure high quality and relevant responses, we used Prolific's pre-selection criteria that only allows participants with prior experience of B2B interactions in a professional setting to view our study. Furthermore, the three attention checks in our study weed out any low-quality responses. In all, 650 participants completed the survey and were paid £2 each. Of these, 108 participants (17%) did not respond correctly to at least one of the three attention checks and therefore these responses were dropped from the analysis leaving a final sample of 542. Table II (a) provides the demographic distribution by age, education, and gender, while Table II (b) provides the distribution by professional experience: years of experience, primary functional experience, buying/selling experience, and transaction volume within the sample. Overall, we find that there is a good distribution and adequately large sample sizes across all the categories of interest. Note that due to the multi-disciplinary nature of RF, not every decision-maker involved in RF adoption at the suppliers could be expected to have buying/selling experience. We also tested for the effect of buying/selling experience on the outcome that was found to be non-significant.

Insert table II(a) and II(b) here

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4 Findings

4.1 Relative Importance of Attributes and Part-worth Utility analyses

As the CBC, by design, estimates the trade-off between attributes, we start with the analysis of the relative importance of the attributes and part-worth utility for each level of the attributes. The relative importance measure indicates the relative impact of each attribute on the total utility of a choice. The percentages are calculated to obtain a set of attribute importance values that add to 100%. While part-

worth utilities are scores that measure the relative influence of each level on the respondent's decision to choose an offer (Hair *et al*., 2013), these part-worth utilities are estimated using a Hierarchical Bayes estimation model and are scaled to an arbitrary additive constant within each attribute so that the sum of the utilities is zero for that attribute. Similar analytical techniques to understand the trade-off between various attributes are common for CBC designs in a variety of fields, including operations management, and are specifically useful to understand the utilities of the attributes at different levels (Venkatesh *et al.*, 2012).

Table III (a) shows the relative importance of the attributes rank-ordered by importance and Table III (b) shows the part-worth utilities for each level of the attributes. We observe that from the supplier's perspective, while distributive fairness – as measured by the payment term days is an important attribute – it is not the only major influencer. In fact, trustworthiness of the buyer – as measured by the reputation of the buyer – is relatively more important, albeit only by a small margin. Overall, these two attributes: buyer's trustworthiness (25.14%) and distributive fairness (23.86%), account for close to half the relative importance of the attributes and stand out as the dominant criteria based on which suppliers evaluate offers. The other five attributes are comparatively less important, and they are all similar in relative importance.

The evidence from the table also shows both considerations of fairness i.e., distributive and procedural fairness account for 34.27% of importance, coupling considerations i.e., duration of relationship with the buyer, share of supplier's revenue from buyer, and supplier's product uniqueness account for 32.77%, while trust considerations i.e. buyer's reputation and other supplier's decision on joining RF account for 32.97% of the importance.

The part-worth utilities of the levels are as expected and provide support for our main hypotheses, except for the attribute – share of supplier's revenue from buyer. We find that both high (30%) and low (5%) share of supplier's revenue from the buyer have less utility relative to the middle option of (15%). We also observe from the 95% confidence intervals that there is significant variance – indicating heterogeneity amongst respondents' choices. This pattern is repeated in the logistic regression model.

Insert table III (a) and III (b) here

4.2 Regression analyses

To further test our hypotheses, we used the utility functions of each respondent to estimate the likelihood of respondents accepting an offer relative to a 'base offer' of joining RF – controlling for all attributes and demographic characteristics. The base offer has attributes at the following levels: Fairness attributes: Payment terms = 60 days and Supplier's estimated joining effort = moderate; Coupling attributes: Duration of relationship with the buyer = 5 years, Supplier's product uniqueness = moderate, share of supplier's revenue from buyer = 15%; and Trust Attributes: Buyer's reputation = No reputation; Other supplier's decision on joining RF = Initiated talks. Table IV shows the results of a logistic regression with the dependent variables "Respondent selecting an offer over the base offer". Model 1(a) presents the coefficients of the logistic regression model.

4.2.1 Impact of distributive fairness: As support of our first hypothesis H1(a), and in line with the part-worth utility analysis, we find that the likelihood of accepting an offer is positively correlated with distributive fairness (Table IV). As the supplier's cashflow benefit remains the same for all payment terms (due to payment of the invoice after 10 days), the results show that the supplier is sensitive to its own financing cost advantage and also the cashflow advantage for the buyer – relative to its own constant cashflow advantage. Specifically, we find that, keeping everything else equal, there is a steady decrease in the supplier's likelihood of accepting an offer with increasing payment terms days.

4.2.2 Impact of procedural fairness: We find that a supplier is increasingly less likely to accept an offer when it faces high transformation effort. Specifically, if the transformation effort increases from 'Low' to 'High', the impact of procedural fairness on the supplier's likelihood of accepting RF is -0.95. This provides support for hypothesis H1(b) and together we provide evidence to show that fairness is a key consideration for suppliers – albeit distributive fairness is more important than procedural fairness.

4.2.3 Impact of coupling considerations: We measure coupling as: a) Duration of relationship with the buyer, b) Supplier's product uniqueness and c) Share of supplier's revenue from buyer. Evidence from Table IV shows that while there is support for the hypotheses for coupling due to a) Duration of relationship with the buyer, and b) Supplier's product uniqueness; coupling due to c) Share of supplier's revenue from buyer does not lead to increased likelihood of a supplier accepting RF. Therefore H2(a) and H2(b) are supported, but we do not find evidence for H2(c).

4.2.3 Impact of trust considerations: In relation to signals of trust, we find a strong and significant positive effect of buyer's reputation on the supplier's likelihood of accepting an offer. From table III (a) we have already seen that this is the most important attribute with 25.14% importance and the impact of a change from poor reputation to good reputation on the supplier's likelihood of accepting and offer increases by 3.2 (From table IV). With regard to trust due to the actions of other suppliers i.e., the perceived mimetic and normative effects, we find that while there is an effect, it is a weak effect. Therefore, while we find support for both measures of trust i.e., H3(a) and H3(b); buyer's reputation has a strong and significant effect while perceived mimetic and normative pressures have a weak effect. The robustness of these results was tested by sub-sample analyses. We also ran further trade-off and sensitivity analyses, which are available on request from the authors.

Insert table IV here

4.3 Text analysis of benefits from technology

We also aim to investigate suppliers' expectations from digital technologies. This is particularly important as suppliers often look to RF solutions to improve operational capabilities such as flexible access to funding and smoothen variability in their liquidity. We asked participants to assess how digital technologies such as electronic invoicing or smart contracting are affecting the operational capabilities of RF programmes. Expected benefits were categorised according to their reference to three objectives

commonly used to capture the roots of productivity gains: variability reduction, bottleneck reduction and waste reduction (Schmenner and Swink, 1998). According to the theory of *swift, even flow*, mechanisms to reduce variability, bottlenecks and wastes increase a system's underlying productive capability by increasing the speed at which units flow through the process and decreasing the variability of that flow in terms of quality, quantity and timing (Bendoly and Kaefer, 2004; Schmenner, 2015). As highlighted in Table VI, the attainable benefits of SCF technologies such as digital platforms and tools (Herath, 2015) map directly to these roots of productivity gains as outlined by the theory of *swift, even flow* and relate to the product involved as well as the process associated (Bendoly and Kaefer, 2004). While product-related benefits relate to the structure of the system relative to existing operations such as the use of a single integrated database, process-related benefits evolve from its implementation and the related process improvements and knowledge gains (Bendoly and Schoenherr, 2005).

Insert table V here

Overall, majority of the participants (58.86%) expect to benefit from the application of digital technologies. Benefits are expected to materialise in reduced variability (37.45%), reduced bottlenecks (25.46%) and reduced waste (16.61%). Reduced variability can result from digital invoicing and payment solutions reducing the diversity of information storage and providing standardised solutions across departments and organisations as well as from intelligent support systems and self-executing contracts reducing the diversity of individual programme evaluations and execution errors. From a supplier's point of view, variability reduction seems to be strongest benefit and it was frequently mentioned that technology should support "an easy interpretation of data" and "to make rational decisions rather than impulsive ones" in our respondent feedback. In addition, digital invoicing, payment solutions, and smart contracts would also allow to standardise and automate P2P and O2C processes which enables an accurate estimation of processing times as well as reduced transaction times. Reduced bottlenecks were also seen as benefit by the respondents who mentioned that "technological innovations will be able to monitor the decisions made much more accurately", "help identify any

potential issues with accounts before needing manual approval" and "will make payments quicker and more autonomous". Since the adoption of digital RF solutions fosters the rationalisation of the P2P and O2C processes, it may also help to eliminate wasteful process activities as well as variability in non-wasteful activities. The reduction of waste is therefore also seen as a benefit by the respondents who mentioned that these solutions "could help streamline all the billing and payments [processes] of the business and help prevent any errors from occurring" to make the "process easier and more common". It becomes apparent that the increasing adoption of digital technologies is expected to strengthen operational capabilities of the RF programmes which, in turn, drive on-boarding and improve execution of the programmes.

5 Discussion

The success of a RF programme relies heavily on the adoption rate and speed of supplier onboarding – but buyers often lag behind their onboarding schedules (Wuttke *et al*. 2016). Our study presents a novel behavioural argument in understanding this phenomenon – i.e. why a supplier may reject RF offers even when it receives a financial benefit. Therefore, we contribute to the growing stream of research on behavioural operations – arguing that "social preferences, such as fairness, trust, and trustworthiness, matter in our personal and professional relationships" (Donohue *et al.*, 2020: 191). We show that suppliers' decision to adopt RF is not only governed by an assessment of their immediate financial benefits, but it is a complex evaluation involving their judgement of the equitable distribution of the financial surplus generated i.e., considerations of fairness. This contributes to the literature on fairness concerns of supply chain partners (Cui et al., 2007). We show the suppliers' fairness assessment is based on the distribution of the surplus among the parties involved i.e., distributive fairness, as well as their assessment of their transformation efforts in onboarding as an input to how the distribution in made i.e., procedural fairness (Kamas and Preston, 2012). Central to this assessment is the suppliers' valuation of the importance of other considerations – namely coupling with the buyer and trustworthiness of the buyer (Özer and Zheng, 2019).

We empirically estimate the relative importance of the attributes and find that the most important attributes are buyer's trustworthiness as measured by buyer's reputation followed by distributive fairness in payment terms; while procedural fairness as measured by the supplier's expected transformation effort during the implementation as well as perceived mimetic and normative pressures are not a major concern. The significant importance of buyer reputation is in line with the work of Caniato *et al*. (2016) that shows the importance of trust between the buyer-supplier as central to onboarding. The lower importance of procedural fairness might be explained by the high level of standardisation in RF programmes that do not allow for much supplier-specific adaptation (cf. Liebl *et al*., 2016) as well as the expectation towards digital solutions to provide real-time access to accurate information, analytics-driven support tools as well as largely autonomous systems for fast and error-free execution of simplified and streamlined trade processes (cf. Section 5.4). Moreover, the comparatively minor relevance of mimetic and normative pressures might be explained by the dominance of reputation as a signal of the trustworthiness of the buyer (Caniato *et al*., 2016).

5.1 Implications for RF research

We believe that our paper has three central implications for research on RF. First, our paper provides definitive evidence to understand suppliers' behaviour towards RF adoption. This directly addresses the call for empirical research by Caniato *et al*., (2019). Our finding – that suppliers are concerned about both relationship and risk management with the buyer – contributes to the growing body of work incorporating the relational perspective of the 'triad' i.e., the buyer, supplier, and financial service providers (Martin and Hofmann, 2019). Second, in line with the literature on information flows in supply chains and the perceived 'procedural and distributive fairness' in deals, we find that suppliers are also sensitive to the fairness in distribution of the surplus generated from RF (Griffith *et al*., 2006). This is particularly important as suppliers are always grappling with information asymmetry about the distribution of benefits and must rely on their trust in the buyer. One signal of the supplier's trust in the buyer is the buyer's reputation and not surprisingly, we observe that buyer's reputation i.e., how it its known to treat its suppliers, is the most important determinant for suppliers accepting an offer to join

RF. Our research therefore indicates supplier's perceived fairness of the deal and any attribute that contributes to that perception would positively influence adoption. Our empirical evidence also opens up possibilities to theoretically investigate why supplier assign greater importance to some attributes more than others (Venkatesh *et al.*, 2012). Third, our research has implications for scholarly work on digital technologies in SCF. Digital transformation effort in onboarding is not a major concern for suppliers, but they clearly benefit from simplified onboarding as well as analytics and planning functionality of the digital platforms (Caniato *et al.*, 2019). Moreover, it has been shown that the adoption of digital technologies is expected to strengthen operational capabilities of RF programmes and that the attainable benefits of SCF technologies such as digital platforms and tools can be mapped to these roots of productivity gains as outlined by the theory of *swift, even flow* (cf. Bendoly and Kaefer, 2004; Schmenner, 2015).

5.2 Implications for RF practitioners

As our experimental setting has been developed and validated with practitioner feedback, including banks, non-bank SCF providers, technology companies, suppliers and buyers; our results also provide practical insights for practitioners. We have developed these insights as normative guidance on how buyers and SCF service providers can remove impediments to RF adoption and increase the uptake of RF by suppliers.

5.2.1 Highlight non-financial outcomes for suppliers

Buyers should not expect suppliers to adopt RF only because there is a financial incentive. Our research shows that suppliers might be reluctant to adopt RF even if there is a clear financial benefit for them. In order to achieve adoption, buyers need to think about a fair split of the surplus as well as building a trust-based, long-term relationship with suppliers (Donohue *et al.*, 2020). Before financially incentivising suppliers, the following actions are likely to increase supplier adoption rate (a) Promote buyer's good reputation towards the suppliers (b) Pursue a phased offer approach starting with long-

term suppliers, as these suppliers are more likely to adopt and create a peer effect (c) Encourage large suppliers that have adopted RF to influence smaller suppliers.

5.2.2 Leverage technology to reduce information asymmetry and simplify onboarding

Suppliers are willing to accept some level of digital transformation effort as part of the onboarding process if they can gain useful information and analytics from the digital solution. Their primary expectation is real-time access to reliable information, planning tools that support their decision-making process, and automation of standardised O2C processes. Digital SCF solutions that provide these features are more likely to see greater acceptance from suppliers (Jia *et al.*, 2020). This insight is based in the finding that suppliers are more likely to adopt RF if the implementation process runs smoothly and if information is transparently shared with the suppliers.

5.2.3 Use financial incentives to trade-off a weak buyer position

Our research clearly emphasises the importance of non-financial attributes in RF adoption, but we also find suppliers willingness to trade-off some of the attributers for financial gain. Our results show that adoption rates can also increase if suppliers are financially incentivised even when (a) The buyer's reputation is weak towards the suppliers, (b) suppliers provide unique components to the buyer or (c) suppliers are amongst the first to adopt RF. Thus, to increase the likelihood of adoption, buyers should compensate by increasing financial incentives to the respective suppliers.

6. Limitation and further research

While our research presents novel insights about RF adoption from a supplier's perspective, we also would like to highlight four limitations and suggest these as further areas of research. First, given that the buyer's reputation is a key determinant of RF adoption, there is scope to develop what constitutes as buyer reputation in the assessment of suppliers. This can include a variety of signals such as ratings and media coverage, vicarious experience from other suppliers, as well as direct experience of the supplier with the buyer. Second, our study does not address the exact power relationship between the

buyer and supplier (e.g., dependence based on component criticality). As it is difficult to replicate power relations in an experimental setup, we purposefully excluded this from our design. Third, we have not captured if suppliers have made experiences from other buyers' programmes before or would be concerned about what unintentional signal is sent to other buyers if they accept RF from one buyer. Once again, we purposefully excluded this from our design as it adds another layer of complexity for our respondents. However, this topic could be ideal for investigation in a qualitative design. Fourth, while there is evidence that identifying competent counterparts at the suppliers who are responsible for RF adoption is essential for upstream dissemination (cf. Wuttke et al., 2013), we have not found significant effects with regard to the participants' professional background or their knowledge of RF, which indicates another promising area for future research.

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Figure I: Example of a single choice set from the CBC

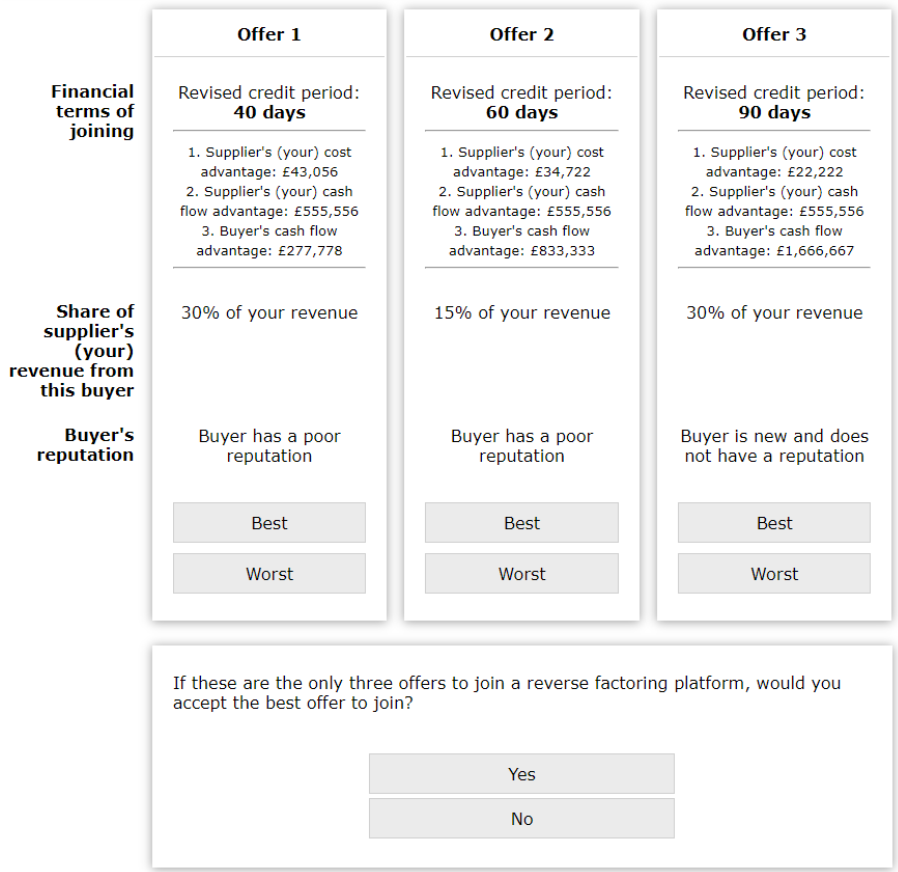

Table 1: Attributes and levels of the CBC experimental design

	Attribute 1	Attribute 2	Attribute 3	Attribute 4	Attribute 5	Attribute 6	Attribute 7
	Distributive Fairness	Procedural Fairness	Coupling considerations			Trust considerations	
	Financial terms of joining (New payment terms)	Supplier's estimated transformation effort in onboarding	Duration of relationship with the buyer	Supplier's product uniqueness	Share of supplier's revenue from buyer	Buyer's reputation	Other supplier's decision on joining reverse factoring
Level 1	40	High	Over 10 years	High	30%	Good	Have adopted
Level 2	50	Moderate	5 years	Moderate	15%	No reputation	Initiated talks
Level 3	60	Low	Less than a year	Low (Generic)	5%	Poor	Delayed decision
Level 4	70						
Level 5	80						
Level 6	90						

Table II(a): Demographic characteristics of the sample

		n = 542	
Age			
1	Less than 20 years	2	0%
2	20 - 29 years	124	23%
3	30 - 39 years	177	33%
4	40 - 49 years	116	21%
5	50 - 59 years	78	14%
6	More than 60 years	43	8%
7	Prefer not to say	2	0%
Education			
1	Up to high school	68	13%
2	Bachelor's degree (UG)	260	48%
3	Master's degree (PG)	135	25%
4	PhD	33	6%
5	Other professional qualifications	41	8%
6	Prefer not to say	5	1%
Gender			
1	Male	310	57%
2	Female	227	42%
3	Other (Non-binary)	1	0%
4	Prefer not to say	4	1%

Note: Percentages rounded off and may not sum-up to 100%, less than 0.5% has been rounded off to 0% to indicate responses.

Table II(b): Professional experience of the sample

			n = 542	
Years of experience				
	1	Less than 1 year	10	2%
	2	1 - 5 years	85	16%
	3	6 - 10 years	78	14%
	4	More than 10 years	365	67%
	5	Prefer not to say	4	1%
Primary functional experience				
	1	Sales	65	12%
	2	Marketing	26	5%
	3	Procurement	10	2%
	4	Operations	99	18%
	5	Finance	49	9%
	6	HR	29	5%
	7	IT	104	19%
	8	Others	148	27%
	9	Prefer not to say	12	2%
Experience of B2B buying or selling				
	1	Yes - As a buyer	102	19%
	2	Yes - As a seller	103	19%
	3	No	313	58%
	4	Prefer not to say	24	4%
Experience of B2B buying or selling deal size				
	1	Less than £50,000	111	20%
	2	Between £50,000 and £250,000	51	9%
	3	Between £250,001 and £500,000	16	3%
	4	Between £500,001 and £1,000,000	14	3%
	5	Above £1,000,000	12	2%
	6	No prior experience	306	56%
	4	Prefer not to say	32	6%

Note: Percentages rounded off and may not sum-up to 100%, less than 0.5% has been rounded off to 0% to indicate responses.

Table III(a): Average Importance by attribute (Rank ordered by importance)

Attribute	Dimension	Importance	Lower 95% CI	Upper 95% CI
Buyer's reputation	Trust	25.14	24.54	25.73
Financial terms of joining (New payment terms)	Distributive fairness	23.86	22.88	24.84
Duration of relationship with the buyer	Coupling	12.90	12.40	13.40
Share of supplier's revenue from buyer	Coupling	10.66	10.09	11.24
Supplier's estimated transformation effort in onboarding	Procedural fairness	10.41	9.98	10.84
Supplier's product uniqueness	Coupling	9.20	8.74	9.66
Other supplier's decision on joining reverse factoring	Trust	7.83	7.49	8.17

Table III(b): Average part-worth utilities and 95% confidence intervals

Label	Part-worth utility	Lower 95% CI	Upper 95% CI
Financial terms of joining (New payment term days)			
40 days	60.24	54.68	65.80
50 days	43.09	39.34	46.84
60 days	15.03	13.23	16.82
70 days	-6.59	-8.11	-5.07
80 days	-42.79	-46.79	-38.78
90 days	-68.98	-74.46	-63.50
Supplier's estimated transformation effort in onboarding			
High	-29.57	-32.21	-26.94
Moderate	9.27	7.96	10.57
Low	20.31	17.74	22.88
Buyer's reputation			
Good	87.84	85.61	90.06
No reputation	-1.42	-2.77	-0.08
Poor	-86.41	-88.90	-83.93
Duration of relationship with the buyer			
Over 10 years	36.07	33.93	38.21
5 years	11.71	10.70	12.73
Less than a year	-47.78	-50.08	-45.48
Supplier's product uniqueness			
Highly unique	16.98	14.65	19.31
Moderately unique	4.66	3.23	6.09
Generic product (Low)	-21.64	-24.59	-18.70
Share of supplier's revenue from buyer			
30% of your revenue	-0.34	-4.17	3.48
15% of your revenue	3.07	1.55	4.59
5% of your revenue	-2.73	-6.25	0.79
Other supplier's decision on joining reverse factoring			
Have adopted	21.93	20.12	23.74
Initiated talks	1.61	0.42	2.81
Delayed decision	-23.54	-25.15	-21.93
Option of not joining reverse factoring			
None	17.89	12.39	23.39

Utility Scaling Method	Zero-Centered Differences
Respondent Count	542

Table IV: Logit regression coefficients of selecting an offer over the base offer

	MODEL (1)	
Variables	Coeff.	Std. error
Independent variables		
Distributive fairness H1(a)		
Financial terms of joining (Base 40 days)		
50 days	-0.36***	(0.03)
60 days	-0.95***	(0.06)
70 days	-1.42***	(0.09)
80 days	-2.00***	(0.12)
90 days	-2.32***	(0.13)
Procedural fairness H1(b)		
Supplier's estimated transformation effort in onboarding (Base Low effort)		
High	-0.95***	(0.06)
Moderate	-0.22***	(0.03)
Supplier's coupling with buyer H2(a)		
Duration of relationship with the buyer (Base Less than a year)		
Over 10 years	1.56***	(0.06)
5 years	1.07***	(0.04)
Supplier's coupling with buyer H2(b)		
Supplier's product uniqueness (Base generic product)		
Highly unique	0.69***	(0.06)
Moderately unique	0.45***	(0.04)
Supplier's coupling with buyer H2(c)		
Share of supplier's revenue from buyer (Base 5% of revenue)		
30% of your revenue	0.06	(0.07)
15% of your revenue	0.09*	(0.04)
Buyer's trustworthiness H3(a)		
Buyer's reputation (Base poor reputation)		
Good	3.20***	(0.10)
No reputation	1.52***	(0.06)
Buyer's trustworthiness H3(b)		
Other supplier's decision on joining reverse factoring (Base delayed decision)		
Have adopted	0.83***	(0.04)
Initiated talks	0.44***	(0.03)
Demographic control variables		
Age (Base 30 - 39 years)		
Less than 20 years	1.50**	(0.57)
20 - 29 years	-0.02	(0.12)
40 - 49 years	0.11	(0.11)
50 - 59 years	0.19	(0.13)
More than 60 years	0.21	(0.16)
Prefer not to say	-0.26	(0.72)
Gender (Base male)		

Female	-0.05	(0.07)
Other (Non-binary)	0.06	(0.18)
Prefer not to say	-0.39	(0.62)
Education (Base bachelors degree (UG))		
Up to high school	0.12	(0.13)
Masters degree (PG)	-0.07	(0.09)
PhD	-0.29*	(0.13)
Other professional qualifications	0.20	(0.16)
Prefer not to say	-0.05	(0.51)
Professional experience control variables		
Years of experience (Base more than 10 years)		
Less than 1 year	-0.20	(0.22)
1 - 5 years	0.02	(0.14)
6 - 10 years	0.11	(0.13)
Prefer not to say	0.41	(0.42)
Primary functional experience (Base operations management)		
Sales	0.02	(0.17)
Marketing	-0.29+	(0.17)
Procurement	-0.04	(0.29)
Finance	-0.19	(0.14)
HR	0.21	(0.18)
IT	-0.12	(0.11)
Others	-0.07	(0.11)
Prefer not to say	0.37	(0.48)
Experience of B2B buying or selling (Base no experience)		
Yes - As a buyer	-0.62	(0.39)
Yes - As a seller	-0.75+	(0.39)
Prefer not to say	-0.46	(0.56)
Experience of B2B buying or selling deal size (Base no experience)		
Less than £50,000	0.72+	(0.38)
Between £50,000 and £250,000	0.56	(0.38)
Between £250,001 and £500,000	0.87+	(0.49)
Between £500,001 and £1,000,000	1.19**	(0.45)
Above £1,000,000	0.78+	(0.44)
Prefer not to say	0.51	(0.53)
Constant	-0.15	(0.12)
Number of respondents	542	
Pseudo R2	0.31	

Clustered standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Table V: SCF technology and process effects (adopted from Bendoly and Kaefer, 2004)

	Examples of technology effects (data integration and tool standardisation)	Examples of process effect (process rationalisation and user education)
Variability reduction	Elimination of redundancies and potential data conflicts	Reduced variability in the execution of standardised transactions
	Reduction in variance in P2P and O2C processing times	Reduced variation in programme evaluation and execution
Bottleneck reduction	Monitoring of processing times and identification of bottlenecks	Focus on core activities and reactive capacity management
	Reduction in average P2P and O2C processing times	Increased ability to recognise and manage process bottlenecks
Waste reduction	Monitoring of process flows and identification of waste	Elimination of redundant and waste-generating sub-processes
	Comparability of process flows and sources of waste	Increased ability to recognise and manage process waste