The impact of asymmetric relationship characteristics on buyer-supplier performance

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Abstract

Buyer's and supplier's might perceive relationship attributes in different ways. These differences in perception create another layer of complexity that is often ignored in buyer-supplier relationships. Our study adds to understanding how these asymmetries in buyer-supplier dyads impact performance outcomes. More specifically, this study assesses how trust asymmetries and contractual fairness asymmetries in buyer and supplier perception explain performance outcomes for buyers as well as suppliers. In addition, our study shows how boundary conditions, such as relationship length, affect the relationship between these asymmetries and relationship performance outcomes.

Keywords: Buyer-supplier relationships, Asymmetric relationship characteristics, Trust, Fairness

Introduction

Research on the performance of buyer-supplier relationships often measures the impact of relationship characteristics from one side of the dyad. Most likely that is the buyer's side. Yet, reality shows that buyers and suppliers often hold different positions and perceptions on these relationship characteristics. For example, one partner in the relationship might have higher levels of trust in the other partner. As such, we need to acknowledge these differences and measure how these asymmetries in social (e.g., trust) and economic relationship characteristics (e.g., contractual fairness) affect economic and social performance of the buyer and supplier within the relationship.

While previous research started to explore asymmetries in buyer-supplier relationships (e.g., Villena and Craighead, 2017; Nyaga et al., 2013), there is still limited research on how these asymmetries influence the performance of buyer-supplier relationships and how these relationship asymmetries interact with other relationship characteristics such as relationship length. We believe that researching these aspects will provide new insights

on how to deal with differences between buyers and suppliers and might enable us to understand some of the complexities for maintaining collaborative long-term buyer-supplier relationships.

Our research will particularly focus on asymmetries in trust and contractual fairness. More specifically, we will analyse how asymmetries in trust and contractual fairness impact relational performance outcomes. Moreover, we also want to understand how these asymmetries interact with other relationship characteristics as potential boundary conditions. Specifically, we analyse how asymmetric trust and contractual fairness are impacted by the length of the relationship, while influencing relationship performance.

Given the frequency of imbalances in relationship characteristics in buyer-supplier relationships (Villena and Craighead, 2017), it is important for managers to uncover and manage these asymmetries carefully. Our research is providing guidance to purchasing and sales managers unravelling some of the interactions between asymmetries in relationship characteristics. These insights also indicate how performance can be increased by working on different sets of relationship characteristics. Furthermore, it approaches buyer-supplier relationships from a socio-economic lens. While most research seem to rely on either the social or the economic perspective, this research is looking at the interactions among these perspectives, i.e., contractual fairness and trust, from a dyadic perspective.

Literature Review

Trust and contractual fairness to govern buyer-supplier relationships

Governance mechanisms are essential for well-performing buyer-supplier relationships (e.g., Villena et al., 2011; Vanpoucke et al., 2014; Liu et al., 2009). These governance mechanisms are steering and controlling the behaviour of the buyers and suppliers towards joint objectives, ensuring that the other party is acting collaboratively when opportunities arise. More specifically, differences in goals and opportunities might create conflict and require governance of the buyer-supplier relationship. This governance is realized through both transactional and relational mechanisms (Liu et al., 2009; Jap and Ganesan, 2000).

Transactional mechanisms are jointly created in the form of contracts, payment terms and stipulations of agreements. Transaction cost economics explain that these mechanisms result from economic rationality and govern the relationship through monitoring and incentive-based structures. A well-designed contract is seen as an instrument to protect relationships against opportunistic behaviour by specifying the obligations of each party (Williamson, 1985). An important aspect of a well-designed contract is that it should be seen as fair by all partners in the relationship. Fairness points to the idea that people and firms do not only care about their own profit, but also about how to distribute profits among people and firms, since people are primary driven by the desire to earn at least a fair share (Bolton, 1991). Equity theory suggest that rewards should be distributed equitably among partners (Adams, 1965).

In buyer-supplier relationships, contract are seen as fair if effort and resources are in line with the outcomes. Only under these circumstances, partners will commit while opportunism and conflict in the relationship should be limited (Luo, 2007). Literature on group decision making indicates that this equity principle is generally used when productivity is the primary goal (Kabanoff, 1991) and is typically advocated by those with high resources (McGrath, 1984). Actors can also share profits among partners is an equality principle. This *equality* rule specifies that each party receives an equal share of the profit. This rule typically is used when the priority is to maintain within-group

harmony, reduce conflict and increase close collaboration within the relationship (Kabanoff, 1991) and is often advocated by those with lower inputs (McGrath 1984). However, in buyer-supplier relationships, applying this equality rule might result in different perceptions of fairness among partners. Recent research found that supply chain partners should care about contract fairness. Katok and Pavlov (2013) for instance showed that retailers found fairness to be a far more important predictors for contract performance than errors or incomplete information. Also Ireland and Webb (2007) pointed out that fairness might replace power at certain levels of trust in the buyer-supplier relationship.

Social exchange theory recognizes relational mechanisms such as trust as useful instruments to control opportunisms and enhance collaboration in long-term buyer-supplier relationships (e.g., Kim, 2000; Vanpoucke et al., 2014). More specifically, relational mechanisms govern buyer-supplier exchanges as social connections create standards for expected behaviour among buyers and suppliers. These expectations in behaviours create group norms that might increase the commitment between partners in the long-term relationship (Seabright et al., 1992). These group norms also creates confidence that the other partner is honest and trustworthy, encouraging the exploitation of relationship-specific opportunities. Most definitions of trust in a supply chain context address how the supplier is reliable and would act in the buyer's best interest. However, supply chains require to also include the supplier's best interest, taking the dyadic perspective of trust into account.

Both contractual and relational governance mechanisms are shown to enhance economic and social relationship performance (e.g., Liu et al., 2009). While previous research focussed on the impact of these governance mechanisms from the perspective of the buyer or the supplier, we will look at the reciprocal impact of these governance mechanisms in buyer-supplier relationships by analysing how the overall level, i.e., the total of the buyer and the supplier level, as well as asymmetries in trust and contractual fairness influence relationship performance. Based on the literature describe above, we can stipulate the following hypotheses concerning overall trust and overall contractual fairness:

H1a: Overall trust is positively related to the buyer's perception of performance

H1b: Overall trust is positively related to the supplier's perception of performance

H2a: Overall contractual fairness is positively related to the buyer's perception of performance

H2b: Overall contractual fairness is positively related to the supplier's perception of performance

Asymmetries in governance mechanisms for buyer-supplier relationships

From a supply chain perspective, it is generally assumed that buyer-supplier collaboration benefits both parties. However, most research on buyer-supplier collaboration has focused solely on understanding buyers' perspectives on resulting benefits, leaving a lack of knowledge concerning suppliers' perspectives. Supply chain collaboration relies on trust and contractual fairness in order to create relational rents. However, when relationship partners "exhibit different levels of trust or experience different levels of fairness in the exchange", the relationship can be described as asymmetric. Asymmetry can cause instability in relationships (Thomas and Esper, 2010), and may explain, at least in part, the challenges associated with making collaboration successful. In addition, Roh et al. (2013) suggest that neglecting the multi-sided nature of certain constructs can affect the research validity and reliability. Neglecting this dyadic view may also invalidate research inferences and results. As such, many studies point to the necessity of

investigating these complex dyadic relationships as an interesting path for further research.

Relationship between trust asymmetry and economic and social relationship performance
Recent research showed that perceptions of relational capital do not always converge (Villena and Craighead, 2017; Korsgaard et al., 2015). These imbalances in relational capital may erode the trust and fairness benefits, depending on the direction (Villena and Craighead, 2017; Ross et al., 1997). If the buyer has more trust in the supplier than the supplier in the buyer, the buyer is seen as more opportunistic by the supplier, while the buyer views the supplier's actions as more collaborative, given the higher level of trust towards the supplier. As such, the supplier might perceive more partner opportunism and might suspect buyer interactions as having a "hidden agenda" or attempts to gain more from the relationship. In other words, the buyer may view trust, but the supplier might not share this view. These different interpretations in trust increase the level of opportunism of partners in the supply chain and consequently impact the social and economic performance of the relationship.

Villena and Craighead (2017) highlight that the impact of asymmetric relationships might depend on the direction of the asymmetry. For example, if the buyer has higher levels of trust, it will perceive the relationship as an asset in which both parties have joined efforts to achieve objectives. As explained before, the supplier however, who has less trust in the relationship, might think that the buyer acts more opportunistically, leading to less commitment from the supplier in the relationship. Consequently, this will negatively impact the economic performance of the supplier, as this partner is less committed to the relationship, while positively impacting the economic performance of the buyer who is more committed due to higher levels of trust. In addition, trust asymmetries might also impact the social performance of the relationship as the member who has less trust in the relationship might create more conflicts in the collaboration practices between a buyer and a supplier. Hence,

H3a: Trust asymmetry-buyer is positively related to the buyer's perceptions of relationship performance.

H3b: Trust asymmetry-buyer is negatively related to the supplier's perceptions of relationship performance.

H3c: Trust asymmetry-supplier is negatively related to the buyer's perceptions of relationship performance.

H3d: Trust asymmetry-supplier is positively related to the supplier's perceptions of relationship performance.

Relationship between contractual fairness and performance
Asymmetry in contractual fairness might be a catalyst for uncertainty within the relationship. This uncertainty might ultimately foster the partner's perception of opportunisms in several ways. Fairness perceptions might for instance impact the interpretation of uncertainty, stemming from the partner's varying cognitive frames (Weber and Mayer, 2014). The partner who indicates that there is less contractual fairness in the relationship might experience more uncertainty in the relationship and consequently perceives the relationship as less beneficial in terms of performance outcomes. In addition, the partner who indicates a lower level of fairness in the relationship will assume that the other party will be more opportunistic due to the fact that this partner negotiated more favourable contract terms, indicating that the other party is acting in a more opportunistic way. As such, we could formulate:

H4a: Fairness asymmetry-buyer is positively related to the buyer's perceptions of relationship performance.
H4b: Fairness asymmetry-buyer is negatively related to the supplier's perceptions of relationship performance.
H4c: Fairness asymmetry-supplier is negatively related to the buyer's perceptions of relationship performance.
H4d: Fairness asymmetry-supplier is positively related to the supplier's perceptions of relationship performance.

Relationship length as a moderator in asymmetric relationships

Although asymmetric relationship characteristics such as trust and contractual fairness might have negative impacts on the relationship performance, we also believe that the length of the relationship might serve as a boundary condition for this negative effect. Dwyer et al. (1987) for instance describe how relationships, as they age, follow a common trajectory: from an exploratory stage through expansion, maturity, and decline. This trajectory reflects the underlying processes by which relational constructs and practices evolve (Jap and Ganesan, 2000; Vanpoucke et al., 2014). Relationship life cycle perspectives explicitly recognize that relationship formation is a "developmental process" (Ring and Van de Ven 1994, p. 112). More specifically, we believe that the length of the relationship positively moderates the impact of trust and fairness asymmetries on relationship performance. The literature supports this statement by specifying that the length of the relationship changes the nature of the association between relational constructs. Moreover, as the relationship develops, simple opportunities have been exploited and partners turn to more investment-intensive opportunities, which require more commitment from both sides. As such, longer relationships increase the confidence of both partners in the relationship which increases the willingness to put more effort and resources into the relationship and consequently increase performance outcomes of the relationship. In addition, longer relationships will also be more able to overcome these asymmetries or imbalances in trust or contractual fairness, as both partners better know each other and know what to expect. This reasoning helps us formulate the following hypotheses:

H5: Relationship length positively moderates the relationship between trust asymmetry buyer and the partner's perceptions of performance.
H6: Relationship length positively moderates the relationship between fairness asymmetry and the partner's perceptions of performance.

Methodology

While there has been a great deal of research on buyer-supplier collaboration over the preceding three decades, only a handful of studies have employed matched buyer-supplier data driven largely by the challenges associated with collecting dyadic data. Thus, our goal was to gather an appropriate dataset that would allow us to test the model using matched pairs of buyers and suppliers.

The questionnaire was developed through an extensive literature review where constructs proven in published studies were employed when possible to provide strong reliability and validity. We modified construct items, when necessary, so they could be adapted to either a buyer or supplier perspective in order to have mirrored questionnaires.

Sampling Design

We collected data via two online surveys, aimed at the account managers of the supplier and the purchasing officers of the buying organization. The buyer data was collected from

a large multinational manufacturer of industrial equipment, which is part of a global industrial group with headquarters in Europe. We established close contacts with the director purchasing to guarantee the quality of the selected buyers. These buyers indicated who the suppliers were of the reported relationships. As such, the supplier data was collected from suppliers of this single, core buying company, allowing for a single frame of reference. Furthermore, the suppliers selected were key suppliers of the buyer. Our final data set consists of 185 data points from suppliers and 103 data points from purchasing officers, resulting in 103 matched pairs.

Measures

The measurement instruments included in the survey were established scales from previous studies or adapted from extant literature. We pretested and validated the questionnaire with semi-structured interviews with five representatives from the buying firm and eight supplier representatives. All items were measured on seven-point Likert scales.

We first measured trust and contractual fairness for both buyers and suppliers in a relationship. Trust is measured as the extent to which partners expect each other not to act selfishly but to follow through on promises (Kaufman and Carter, 2006). The following four items measure this construct: (1) we can count on our partner to follow through on their commitments, (2) when making decisions, our partner considers our business interests as well as its own, (3) we trust that our partner keeps our best interest in mind and (4) our partner is honest with us. Depending on the respondent, the word 'partner' was replaced by buyer or supplier.

Fairness was measured based on previous measures of Samaha et al. (2011) and Wagner et al. (2011) and mainly focussed on distributive fairness of contracts and outcomes. The 5 items measure how fair contracts, agreements and payment term are and assess whether our partner is paying according to these agreements and whether it is profitable to do business with the partner.

For the dependent variables, social as well as economic performance is measured both from the buyer and supplier side. Social performance is measured by 4 items measuring mutual respect, feelings of opposition and two items about involvement and pro-active communication of important information (Mohr and Spekman, 1994). Economic performance measures how our partner is helping us to maintain profitability, to find new customers and to perform better (Guyskens and Steenkamp, 2000). Cronbach's alpha of these constructs are between 0.742 and 0.881. An EFA confirmed our constructs and provided significant factor loadings beyond the 0.5 cut-off.

In addition, two control variables are calculated: total dependence and relationship length. Total dependence is measured as the sum of buyer and supplier dependence and is assessed by asking these respondents four questions about how easy it is to switch to another partner by availability of other partners, resource investments and efforts required to do so (see Kumar et al., 1995). Relationship length is measured into two categories: shorter-term relationships (less than 5 years) and longer-term relationships (5 years or more in length).

Our measures of trust, contractual fairness and dependence in the regressions represent the total level of these constructs in the dyadic relationship and are calculated by summing the buyer's and supplier's scores for these constructs.

Consistent with previous supply chain research on dyadic data (Villena and Craighead, 2017; Nyaga et al., 2013; Roh et al., 2013), we used a spline method to measure asymmetries in the level of trust and contract fairness. This method calculates the asymmetry of buyer and supplier scores concerning relationship attributes, while also

taking into account the direction of the asymmetry. This method allows to explore differences in asymmetries beyond just absolute values, but to also analyse the impact of the direction of the asymmetry, as we have hypothesized different effects concerning the direction on performance outcomes. If the buyer's score was higher than the supplier's score, then we coded the construct's asymmetry buyer variable as the subtraction of the supplier's score from the buyer's score and zero otherwise. The construct's asymmetry supplier score was calculated in the same way, but with zero for the values where the buyer's score is higher than the supplier's score.

Results

We examined the data for violations of assumptions of normality and multicollinearity (Cohen et al., 2003). All variables approximated normal distribution except the relationship length, which is a categorical variable. To address multicollinearity, we calculated the variance inflation factor (VIF). All were well below a common rule-of thumb cut-off of 10 (Kutner et al. 2004). To test our hypotheses, we used hierarchical regression analysis. Tables 1 and 2 present the results for buyer/supplier economic performance and buyer/supplier social performance respectively. These tables report the increments in adjusted R^2 at each step, each regression equation's significance, unstandardized beta coefficients, and robust standard errors.

In model 1, we assessed the control variables, i.e. length of the relationship and overall dependence and the overall levels of trust on buyers and suppliers performance in the relationship (see Table 1 and 2). As expected, our results indicate a positively significant association between overall trust and economic performance for both the buyer ($B = 0.229$; $p < 0.001$) and the supplier ($B = 0.233$; $p < 0.01$) respectively as well as between overall trust and social performance for the buyer ($B = 0.295$; $p < 0.001$) and the supplier ($B = 0.308$; $p < 0.001$). This supports H1. Contractual fairness however seems to have only a significant positive relationship with the buyer's economic performance ($B = 0.138$; $p < 0.1$) and with buyer's social performance ($B = 0.108$; $p < 0.1$). There seems to be no relationship between fairness and economic and social performance at the supplier's side. These results partially support H2, i.e., only for the buyer-side. For social supplier performance, one of the control variables, reciprocal dependence is significant ($B = -0.079$; $p < 0.05$), while no significant relationships are found for the other associations between control variables and performance outcomes.

Model 2 introduces the asymmetries of trust and contractual fairness in the regression. The results show that asymmetric trust-supplier is significantly and negatively related to buyer economic ($B = -0.414$; $p < 0.001$) and social performance ($B = -0.301$; $p < 0.001$), rendering support for H3b. For supplier performance, a positive relationship is found for asymmetric trust supplier with economic performance ($B = 0.223$; $p < 0.05$), providing partial support for H3d. No support is found for H3a and H3c. The relationship between asymmetric fairness-buyer and economic buyer performance is also significant ($B = 0.462$; $p < 0.001$) while not for the social buyer performance. Thus, this renders partial support for H4a. Asymmetric fairness-supplier is also significantly and positively associated with economic buyer performance ($B = 0.221$; $p < 0.05$). This is opposite to what our hypothesis predicts and as such, no support is provided for H4c. The negative and significant association of asymmetric fairness-buyer on economic supplier performance ($B = -0.357$; $p < 0.05$), but not on social supplier performance renders partial support for H4b. No associations are found between fairness asymmetries and social performance outcomes.

Finally, Model 3 introduces the interaction effects of the asymmetries with the length of the relationship. Support is found for the positive association between the interaction

of asymmetric trust-buyer and length of the relationship on buyer's economic performance (B = 0.268; p < 0.05), providing partial support for H5. We found however also a negative relationship between the interaction of trust asymmetries-buyer (B = -0.280; p < 0.05) and trust-asymmetries-supplier respectively (B = 0.179; p < 0.100) and social performance of the supplier. For the interaction of asymmetric fairness, only one significant relationship was found: the asymmetric buyer fairness is positively related to social supplier's performance (B = 0.288; p < 0.05). This provides partial support for H6.

Table 1 – Results of regression models for economic performance

Economic performance												
	Buyer						Supplier					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Intercept	0.882	0.749	0.813	0.714	0.228	0.732	0.802	0.883	1.016	0.910	1.021	0.965
Control variables												
Relationship length	-0.002	0.060	-0.059	0.053	-0.065	0.053	0.065	0.070	0.091	0.068	0.109	0.069
Overall dependence	0.004	0.039	<0.001	0.034	0.002	0.034	-0.035	0.046	-0.021	0.044	-0.021	0.044
Main effects												
Overall trust	0.229 ***	0.062	0.199 ***	0.056	0.228 ***	0.057	0.233 **	0.073	0.238 **	0.071	0.232 **	0.076
Overall fairness	0.138 †	0.072	0.194 **	0.065	0.207 **	0.065	0.160 †	0.085	0.112	0.083	0.113	0.085
Asymmetry effects												
Trust assym buyer			-0.250	0.181	-0.081	0.196			0.103	0.230	0.122	0.259
Trust assym supplier			-0.414 ***	0.089	-0.375 ***	0.090			0.223 *	0.113	0.178	0.118
Fairness assym buyer			0.462 ***	0.132	0.638 ***	0.147			-0.357 *	0.168	-0.397 *	0.194
Fairness assym supplier			0.221 *	0.108	0.277 *	0.109			0.094	0.138	0.106	0.144
Interation effects												
Trust assym buyer * Relationship length					0.268 *	0.105					-0.139	0.139
Trust assym supplier * Relationship length					0.066	0.078					-0.120	0.103
Fairness assym buyer * Relationship length					0.017	0.103					0.064	0.112
Fairness assym supplier * Relationship length					-0.058	0.085					0.130	0.136
R^2	0.331		0.517		0.559		0.303		0.412		0.427	
R adjusted square	0.304		0.476		0.501		0.274		0.362		0.350	

Unstandardized coefficients

† p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001

Table 2 – Results of regression models for social performance

Social performance												
	Buyer						Supplier					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Intercept	1.343 *	0.602	1.577 **	0.579	1.654	0.614	3.275 ***	0.769	3.180 ***	0.832	3.198 ***	0.843
Control variables												
Relationship length	-0.036	0.048	-0.037	0.043	-0.079 †	0.044	-0.047	0.061	-0.029	0.062	0.002	0.061
Overall dependence	-0.002	0.032	-0.007	0.028	-0.008	0.028	-0.083 *	0.04	-0.079 *	0.04	-0.079 *	0.039
Main effects												
Overall trust	0.295 ***	0.05	0.29 ***	0.045	0.28 ***	0.057	0.308 ***	0.063	0.302 ***	0.065	0.28 ***	0.066
Overall fairness	0.108 †	0.058	0.117 *	0.053	0.123 *	0.054	-0.02	0.074	-0.02	0.076	-0.006	0.075
Asymmetry effects												
Trust assym buyer			0.095	0.147	0.107	0.164			-0.161	0.21	-0.075	0.226
Trust assym supplier			-0.301 ***	0.072	-0.278 ***	0.075			0.166	0.103	0.084	0.103
Fairness assym buyer			0.113	0.107	0.107	0.123			-0.045	0.153	-0.151	0.17
Fairness assym supplier			0.003	0.088	-0.002	0.091			0.026	0.126	0.046	0.125
Interation effects												
Trust assym buyer * Relationship length					0.038	0.088					-0.28 *	0.121
Trust assym supplier * Relationship length					0.096	0.066					-0.179 †	0.09
Fairness assym buyer * Relationship length					-0.02	0.087					0.288 *	0.119
Fairness assym supplier * Relationship length					0.012	0.071					0.058	0.098
R^2	0.503		0.635		0.645		0.345		0.392		0.458	
R adjusted square	0.482		0.604		0.597		0.318		0.34		0.385	

Unstandardized coefficients

† p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001

Discussion

Our results show that asymmetries in relationship characteristics such as trust and contractual fairness play a role in explaining the social and economic performance of

buyer-supplier relationship. In addition to measuring the direct effects of relationship characteristics, it is also important to understand how buyers and suppliers perceive differences in these relationship characteristics, as these differences in viewpoint might influence relationship performance. Consistent with Villena and Craighead (2017) and Gulatie and Sytch (2007), we found that not only the asymmetry has an impact, but also the direction of the asymmetry influences the link between relationship characteristics and its performance outcomes. Our analysis also show that buyer's performance seems to be more sensitive for these asymmetries. Suppliers might want to serve each customer well and might consequently be less concerned about differences in relationship characteristics. In summary, our analysis suggest that asymmetry is viewed both favourably and unfavourably depending on the upstream or downstream partner's viewpoint. More open communication and transparency on viewpoints might help managers to understand these differences in viewpoints and might help to overcome and appreciate these differences in attitude towards the other partner.

We also found that asymmetries interact with direct effect relationship characteristics. For instance, the length of the relationship positively interacts with asymmetries in trust to influence performance outcomes of the relationship. This seems to suggest that long-term relationships seems to be more resilient to deal with asymmetries than relationships that started-up recently. This might be because long-term partners learned to appreciate each other differences and learned how these differences can be overcome so that the impact on the performance of the relationship is limited for both partners. However, these interactions between asymmetries and relationship characteristics requires further analysis as these seems to be quite complex.

Our research also has limitations. We studied two asymmetries of relationship characteristics, i.e. trust and contractual fairness. However, other asymmetries may be worthy of exploration. We invested time and effort into collecting cross-section survey data from both buyers and supplier. However, cross-section data does not enable to look at the dynamic nature of these relationship characteristics. An interesting avenue for future research in this respect is to look at how different asymmetries evolve over time and how these asymmetries impact other asymmetries in relationship characteristics.

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