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Introduction

Taking into account the fact that the data collection and review process were still largely paper- (and pencil-) based, it is approximately two decades since the research for 'Antecedents of Commitment and Trust in Customer–Supplier Relationships in High Technology Markets' (de Ruyter et al. 2001), which appeared in *Industrial Marketing Management*, was conducted. The article sets out to develop and empirically assess the impact of factors pertinent to the high-tech environment on relationship variables of commitment, trust, and relational continuity. More specifically, it develops a model that identifies trust and commitment as key building blocks in customer-supplier (i.e., vendor-channel partner) relationships in B2B high technology markets. In these markets, which are characterized by elevated levels of complexity and switching cost risks, suppliers allocate considerable investments to maintaining and expanding the scale and scope of the

relationships with their customers. Set in the context of the Very High Volume segment for industrial office equipment, 54 face-to-face interviews were conducted and survey data was collected (through 'a personalized cover letter on University stationery and a postage-paid return envelope', de Ruyter et al. 2001, p. 278) from 491 respondents. The results show that offering, relationship and market attributes are predictors of trust and affective and calculative commitment and that, in turn (and through partial mediation), these influence customers' intentions to continue the relationship with the vendor.

Fast forwarding to the present day, we conclude that trust and commitment are still central to managing customer–supplier relationships in high technology markets. Moreover, the observation made in the final paragraph of the paper that in this B2B context 'a high emphasis is placed on integrated networks between suppliers and customers' (de Ruyter et al. 2001, p. 283) has certainly materialized in the past years. In today's industrial technology markets suppliers continue to commit considerable resources to customer (or channel) relationship management. In addition to their direct impact on supplier revenues, customers (or channel partners) are viewed as an important source of market information and product and market development (Aguirre et al. 2018).

At the same time, many changes have taken place and continue to occur. Similar to data collection and research dissemination methods, firms and markets continue to transform digitally. A prevalent strategy is to launch online platforms to support digital channel partner ecosystems and expand the scope of supplier-customer relationships. For instance, Lenovo's Expert Achievers Programme (LEAP), is a worldwide channel partner portal which is not only focused on sales support and incentivization of channel partners, but also on offering online education for professional advancement and increasing critical sales and technical competencies. Similarly, IBM's KYI (Know Your IBM) programme is based on a learning management system that offers thousands of online modules and certification tracks,

discussion forums and virtual meeting rooms for collaborative learning supported by incentives to reward for the sales of IBM featured products. Increasingly, suppliers and customers co-create coalition training material to support co-marketing partnerships. Learning engagement in these environments is frequently promoted by intricate gamification tactics and incentive structures. Peer-to-peer support is facilitated in virtual communities of practice and social recognition systems (e.g., badging system to acknowledge and recognize experts) are deployed to drive both informational as well as social value. More than 105,000 IBM channel partner firms are enrolled in IBM PartnerWorld of which the KYI programme is a key feature. The strategic importance of these platforms becomes clear from the level of investment that technology providers are prepared to take: HP recently invested around $1.5 billion in the launch of its PartnerOne programme and Dell invested $1 billion in the launch of its Internet of Things-focused division that includes a partner program, product development, labs, consumption models and ecosystem-building (Ward 2017).

Suppliers are still very much dependent on relationships with their customers (i.e., channel partners). For instance, 80% of Cisco's revenues originate from collaborating with 55,000 customers (Kalyanam and Brar, 2009). While the economic value of supplier-customer relationships remains unequivocally clear and, given their strategic importance and the level of investment, it is pertinent to establish the ROI of relationship management initiatives. This is part of the managerial need to zoom in on the 'impact of possible tactical and strategic decisions, management will be able to select and fine-tune the right characteristics to improve customer relationships and loyalty of the existing customer base' (de Ruyter et al. 2001, p. 283). This is particularly relevant in the light of a number of recent market surveys that have revealed increasing disappointment among C-suite executives with learning uptake and the realization of earning potential within customer relationship initiatives (Haber 2016). This has been attributed to the fact that customer engagement levels

with these programmes vary considerably (Pelser et al. 2015). Therefore, there is a clear managerial rationale for developing a better understanding of how channel partner programmes translate into value in customer-supplier relationships.

Beyond this practical need for more insights, there is also a need to extend the scholarly knowledge base with insights on these business relationship management programmes, as theorizing on these contemporary initiatives has remained scant. Our aim in this article is to extend the current knowledge base on supplier-customer relationships from three foci. Firstly, we go back to the future and revisit de Ruyter et al.'s (2001) article. We take their implications for future theory development as a guide to identifying a number of conceptual and empirical building blocks for studying supplier-customer programmes on the basis of the extant literature. Secondly, we turn to the present and discuss an illustration of a current application of these building blocks in the context of a partner programme of a high technology company through an empirical case study. Thirdly, and looking to the road ahead, we offer a number of opportunities for future research in this area by composing a customer-supplier relationship research agenda.

Back to the future

As per scholarly convention, de Ruyter et al.'s 2001 paper offers a number of directions for future research upon the reflection of a number of shortcomings of their research. As a first recommendation, the authors argue that 'future research should be directed at including other aspects of supplier–customer relationships' (p. 282). More specifically, a key finding of the study is that affective and cognitive motivations play a central role in business relationships. Research has further addressed the role of these motivations on engaging relationships. For instance, Palmatier et al. (2009) advanced the notion of gratitude as a concept with a pertinent impact on supplier-customer relationships. Gratitude is conceptualized as the "emotional

appreciation for benefits received" (Palmatier et al. 2009, p. 1) and is viewed as a mechanism

for translating relationship investments into tangible returns (Raggio et al. 2014) and

perceptual relationship improvements (Bono and McCullough 2006; McCullough et al.

2008). More recently, Pelser et al. (2015) identified indebtedness as an affect-based

motivation that is complementary to gratitude. It has been defined as "a state of obligation to

repay another" (Greenberg 1980, p. 4), stemming from the social norm of reciprocity, which

states that "(1) people should help those who have helped them, and (2) people should not

injure those who have helped them" (Gouldner 1960, p. 171). In contrast with gratitude,

indebtedness has been identified as an unpleasant state (Watkins et al. 2006) that is

accompanied by negative emotions (Greenberg 1980). Pelser et al. (2015) find that

indebtedness has negative effects on commitment to the supplier, as well as the reseller's

effort in selling the manufacturer's products and services. Gratitude on the other hand has

positive effects and simultaneously attenuates the effects of indebtedness on sales effort and

commitment, thus offering a buffer against indebtedness' detrimental effects.

In terms of cognitive motivations related to channel partner programmes, a recent

study by Aguirre et al. (2018) finds that, in accordance with self-regulated learning theory,

learning engagement in channel partner programmes can be stimulated by inviting customers

to write reviews of learning content that is made available (as opposed to providing

evaluations based on ratings). The authors show that the act of review writing presents

customers with an opportunity to reflect and that this provides an additional motivation to

engage in further learning behaviour. This holds specifically true when the intended audience

of the reviews consists of peers (viz-a-viz the supplier company) and the scope of the review

is on the whole programme (as opposed to one particular module). These effects are

moderated by the degree of learning orientation of the customer and the level of identification

with the supplier, as well as length and nature (i.e., exclusive vs brand agnosticity) of the relationship (Aguirre et al. 2018).

Finally, a recent paper by Storey et al. (2018) finds that the certification of learning and the presence of a social platform, a virtual community that entails information and social exchange, strengthen the relationship between the way in which a supplier is perceived to manage its network of customers and the customer-perceived performance of the relationship. Conversely, when customer networks are not managed well, there is a potential risk that certain customers feel left out. A recent study by Mo et al. (2017) among 155 technology customers confirms that when channel partners experience the feeling of being left out of the channel loop, this increases the chance that they will behave more opportunistically. This poses a potential threat to the quality and continuity of relationship investments. Thus, in relation to the identification of relational building blocks with regards to contemporary management of supplier-customer relationships, the scope has widened as several concepts have been demonstrated to impact relationship performance.

While the arsenal of subjective or perceptual measures and underlying psychological mechanisms has increased, this seems less the case with respect to objective performance measures. A second recommendation advanced by de Ruyter et al. (2001, p. 283) is to focus on 'measures of actual behaviour and objective performance'. As the ROI of supplier-customer programmes is under pressure and the degree of active participation varies considerably or has been found to decline (Fiorletta 2011), it seems pertinent to assess and monitor customer engagement in a behavioural sense. Furthermore, the availability of big behavioural data sets and advances in data mining analytics puts a focus on behavioural indicators to the forefront and ultimately enables firms to monitor how increase in engagement translates into value for the firm (Keeling et al. 2018).

Thus far, less clarity exists with respect to the behavioural manifestations of engaging in a relationship. During the past decades, the notion of engagement has emerged as an important concept in current marketing theory (Brodie et al. (2011), yet the notion of behavioural manifestations of engagement is still in the beginning stage of development (Hollebeek et al. 2014). We agree with Bolton (2011) that behavioural engagement needs to be examined more elaborately, given its centrality to customer relationship management and its role as a fundament for managerial action. While some scholarly attention has been paid to the notion of behavioural engagement, there are two key areas that lack convergence.

On the one hand, we lack clarity as to whether behavioural engagement can be captured by a single, composite indicator or whether it is preferable to deploy multiple measures to reflect a range of behaviours. The practice of measuring behavioural engagement through a single metric has enjoyed popularity among marketing theorists and practitioners, as this has the obvious advantage of ease of monitoring and tracking over time. Yet, as has been argued by various scholars, distinct and multiple metrics are preferable given the wide range of behaviours that actors engage in as well as the dynamics of multi-way interactions (e.g., Peters et al. 2013).

On the other hand, the debate on the use of behavioural engagement as a relational exchange concept has focused on the issue of which types of behaviours to focus on. Van Doorn et al. (2010) discuss a behavioural engagement inventory that consists of a multitude of behaviours, such as referrals, co-creation, complaining, offering support to other customers, blogging and review writing, and the authors posit that behavioural engagement refers to discretionary actions in relation to role expectations. An important limitation of taking such a perspective, however, is that such expectations are equivocal and inconsistent (Griffin, Parker and Neal 2008). Within the context of online customer relationship platforms, it could be argued that it is important to distinguish between passive behavioural

engagement (e.g., signing up to become a member of a platform, viewing content, click throughs) and active engagement (e.g., producing content, posting a review of learning material, claiming a sale, earning a recognition badge).

Taking into account these issues, we argue (and later illustrate) that behavioural engagement can be grounded in the identification of a focused range of behaviours based on their relation to value creation, so that we can establish an explicit connection to a supplier's performance. While a broad range of behavioural manifestations, resulting in a multi-dimensional approach may be a gratifying conceptual exercise, managerial practice is in need of a more focused approach. Fundamentally, we posit that sales performance is the key performance indicator for a supplier's channel partner programme. We advance three forms of contextually relevant behaviour in relation to the key objective of sales performance. Specifically, we recognize recency (how recently did the customer sell the supplier's products?), frequency (how often did the customer sell supplier's products?) and breadth of sales (what range of the supplier's product portfolio does the re-seller sell?) as manifest indicators of behavioural engagement. This is based on the premise that these behaviours can be directly related to the generation of value (and therefore ROI) for a supplier's channel programme (Keeling et al. 2018). In the next section, we will offer a discussion of another case illustration to highlight the focus on behavioural engagement and track how it results in value for the firm, the Engagement-to-Value (E2V) approach.

A third recommendation offered by de Ruyter et al. (2001, p.283) is to move beyond the prevalent static focus and 'study supplier–customer relationships in high-technology markets over time to be able to take into account the dynamics of business relationships'. Likewise, and over a decade later, Hollebeek et al. (2014, p.150) posit that "insights into consumers' engagement-related dynamics remain sparse and largely lacking measurement capability and empirical validation to date". This recommendation is echoed by many

scholars that study business relationships (e.g., Palmatier, Dant & Grewal, 2007; Palmatier et al., 2013) and those who have adopted a specific focus on channel partner programmes make a more specific call to study the vendor-reseller relationship over time (e.g., Pelser et al., 2015). Exploring the longitudinal engagement of business customers is particularly pertinent as suppliers are interested in developing long-term relationships with their resellers. Primarily, the impact of relationships on sales and revenue can be more comprehensively established when taking the research beyond cross-sectional designs.

However, a strong focus on learning and development in particular requires longitudinal analysis. For instance, a focus on industry certification implies that customers focus on series of training modules, the completion of which is part of a long-term learning objective. Correspondingly, the deployment and assessment of learning incentivization over time has been left under-researched. For example, training roadmaps offer structured advice to customers as to how to select learning elements that help them in tacking particular sales issues and challenges. Suppliers also experiment with proficiency tests to continually gauge customers' technical and sales skills and knowledge and several suppliers have developed sales simulators to help their customers deal with real-life sales challenges through practice. The association between education and performance is complex and unlikely to be linear over time (Van Beuningen, et al. 2009). And researchers have suggested that there will be a lag effect between the education undertaken and the resultant performance making it difficult to measure the exact impact of education on future performance (Küpper-Tetzel, et al. 2014). Therefore, more longitudinal research is still needed to incorporate these education checks and balances and gauge whether there is an impact of learning on earning over time.

A final implication for future research offered by de Ruyter et al. (2001) is to deploy research designs that incorporate multiple perspectives. As the authors argue (p. 283), 'relationships are of a dyadic nature and are best operationalized by incorporating more than

one contributor'. Empirically, this will enable researchers to handle issues related to common method variance response bias better. Substantively, the dominant premise in much of the research that has focused on supplier-customer relationships departs from the point of view that customers are exogenously motivated, rather than attributing engagement to strategies and tactics that can be deployed within the context of a programme. Hence, we contend that research is needed that explores how firms can efficiently and effectively develop differential engagement strategies to drive the behaviour of their customers by targeting and profiling of customers who are member of a programmes and/or convincing and nudging customers who have not signed up to join the programme.

The Present

In order to comprehensively address aforementioned issues in the context of customer relationship management in the high tech space, we turn to an empirical case study. We focus on the channel partner programme of a supplier that is one of the leading global players in the market of industrial electronic components. For the purposes of this case study, we track the total base of 97,536 business customers, operating within EMEA (Europe, Middle East and Africa), the company's largest geographic segment over a 12-month period from January 2016 to December 2016. The total dataset comprises 652,870 transactions, incorporating 2,203,941 units sold with a total value of $624,974,800. We were able to record on a daily basis the date of transaction, value of transaction, and number and classification of units per transaction. The dataset incorporated both members of a channel partner programme (2,590: 1,587 tier 1, 534 tier 2, 222 tier 3, 247 tier 4, where tier 4 is the highest tier level) and non-member customers (94,944). The channel partner programme awarded points to customers for valid sales claims, and these points could be exchanged for items from a catalogue (comprising a range of reward options including holidays and pre-loaded payment cards).

Our objective was to study the ROI of behavioural engagement using the E2V analysis described in Keeling et al. (2018). Specifically, the E2V approach is composed of four steps that explore the nature of behavioural engagement within the distribution network and track how this translates to value (typically in terms of sales). In our application, the first two steps focus on establishing the current value of behavioural engagement of both channel partner programme membership and non-members. These two steps allow suppliers to pinpoint both aspects of potential for capacity building (especially within the non-member group of customers) and points of potential disengagement in the member group. Steps three and four subsequently focus on developing strategies, through the use of profiling, for capitalizing on the identified opportunities for managing growth as well as targeting those customers who may be disengaging. We demonstrate our application of the E2V analysis in four consecutive steps below.

Step 1: Establishing the overall value of the channel partner programme

Step one involves a descriptive review over the 12-month period of the overall behavioural engagement of customers (average number of transactions and average number of units per transaction) and average total value of sales. These indicators are important to suppliers running such partner programmes and routinely monitored. This review indicates substantive differences between members and non-members and between members in different tiers across these two behavioural engagement indicators and value (table 1).

Table one about here

As members move up the tiers, the transactions, as expected, increase in terms of behavioural engagement (i.e., volume indicated by number of transactions and units sold) and value in terms of total sales. These between-group differences are significant based on both the Brown-Forsythe and Welch robust tests of equality of means (given unequal variances).

Post-hoc tests (Tamhane's T2) reveal that the differences between tiers are all significant, with the exception of tiers 3 and 4 on number of transactions and units purchased. Indicating that whilst members in Tier 4 offer higher value in terms of sales, behavioural engagement between the tiers in terms of volume of transactions is more closely aligned.

Based on this first step review, which acts as a baseline for further analysis, we establish that the channel partner programme is offering a good E2V proposition to the supplier that has invested substantially in running this programme. However, the post-hoc tests raise the question as to whether there are members in Tier 3 are ready to move up to tier 4 (given their closeness in behavioural engagement) and/or that some members of tier 4 are poised to move down to a lower tier. It is the more fine-grained issues such as these that caution the generic assumption that relationships with customers are smooth sailing and that subsequent steps in our E2V approach are warranted.

Step 2: Engagement-2-Value (E2V)

In step two, given the large variances within the member and non-member groups, we zoom in on the distribution of behavioural engagement and value, that is, the E2V of customer-supplier relationships. We evaluate the distributions of E2V based on analysing the relationship between value (sales) and engagement (transaction recency and frequency) across the 12 month period. We demonstrate this relationship using a heatmap (figure 1) that positions value against recency and frequency.

<div align="center">**Figure 1 about here**</div>

The darker areas on the heatmap indicate behavioural engagement that is of higher value in terms of average sales. The percentage figures indicate the percentage of the population located in each zone. The heatmap depicted in figure 1 indicates that for the observed population those who are more behaviourally engaged, that is transacting more

frequently and more recently, tend to have higher value of sales, which is the ideal pattern of engagement for the vendor. However, focusing on the distribution of members across the heatmap, we note some potentially problematic patterns. In particular, there are relatively large percentages of the population in the less frequent and less recent transaction areas.

We go on to explore the patterns of E2V for the members (across the tiers) and for non-members by separately mapping the percentage of channel partners onto the heatmap (figure 2). As expected there is no discernible E2V pattern for the non-members group (supported by a non-significant Kendall's Tau-b of -.001), with some higher percentages in the less recent transaction zones. For the members of the programme, we note clear patterns emerging of higher percentages of members in the top right zone of the heatmaps – indicating a healthier E2V. This pattern grows stronger as we move up the tiers indicating growing capacity in the channel partner network in terms of E2V (supported by significant Kendall's Tau-b: tier 1=.125, tier 2=.165, tier 3=.261, tier4=.222).

Figure 2 about here

We zoom into identifying the customers located in the different zones on the heatmap – in particular the top right-hand zone (highest E2V) and the bottom left-hand zone. With regards to the top right-hand segment, figure 2 indicates that some non-member customers (alongside those in the lower tiers of the programme) are already operating in the top E2V zone. In total there are 3333 non-members, 235 tier 1 members, 143 tier 2 members, 94 tier 3 members and 118 tier 4 members in this zone. The potential in the lower tiers is indicated by this clustering of higher E2V in the top right zone of the heatmap.

In terms of those customers located in the bottom left-hand zone, figure 2 indicates those programme members and non-members operating in the lower E2V zones, potentially indicating some disengagement from the programme and/or from the vendor. In total, in this zone, there are 13,119 non-members, 91 tier 1 members, 12 tier 2 members, perhaps more

concerning, 7 tier 3 members and 5 tier 4 members. Revisiting the question posed at the end of step 1, we do not show strong evidence of disengagement in tier 4, but we do note concern around the tier 4 members located in the bottom left-hand zone and also indications that some tier 4 members who may not be engaged as frequently with the vendor (lower right-hand zone of the heatmap).

Taken together steps 1 and 2 indicate that whilst there are clear advantages to the supplier of running the programme, there are two key points to act on in terms of building capacity within the channel. First, how to release the potential in the lower tiers (e.g., typically identifying and targeting the higher value members in the lower tiers, who are poised to move up to the next tier). Second, how to release the potential in the non-member customer group – a very large group with potentially a lot of scope for increasing E2V. On a separate note, we need to address the potential loss of members (or engaged non-members) through exploring those who show signs of disengagement with their relationship to the supplier.

Step 3: Developing programme member profiles based on E2V

Steps 1 and 2 help us to diagnose the current state of E2V between (non)member customers and the supplier, indicating, as mentioned above, areas of potential and also possible disengagement. In step 3 the aim is to develop E2V profiles of the current population as a means of refreshing our understanding of value by also accounting for behavioural engagement of customers. This approach departs from the current tiering based solely on level of sales claims. In our case, we use the two-step clustering procedure and include multiple behaviour-based engagement indicators (recency and frequency of engagement and adding in engagement with the breadth of the supplier's portfolio of products) alongside

value. In table 2 we present the resultant profiles (cluster quality indicated as 'good', average silhouette=0.9).

<p align="center">**Table 2 about here**</p>

These profiles help us to more effectively break down the population into 8 profiles (incorporating the non-members) on a multidimensional basis and hence refresh the approach to the programme tiering. Using discriminant analysis, we identified a significant association between the profiles and E2V. All factors were important predictors of group membership. In terms of behavioural engagement dimensions the order of importance was recency (0.99), breadth (0.98) and frequency (0.90). Value (0.74), the standard basis for channel partner programme tiering, was the least important predictor of profile membership. [The cross-validated classification showed that 94.9% of cases were correctly classified.] The profiles suggest that in building capacity, it is engagement in terms of recency and frequency that develop in the earlier stages before seeing an increase in engaging in the breadth of the portfolio. This is important in terms of understanding which dimensions of behavioural engagement to target customers on in order to build capacity in the relationship.

In figure 3 we demonstrate how our profiles map onto the existing tiering. We note that the membership of the tiers is more diverse than might be expected given the sales thresholds set for each tier. There is some consistency between our profiles and the top 2 tiers (with large proportions of trailblazers and masters). However, this mapping demonstrates the valuable insights that the developed profiles give to the E2V of members in each tier and non-members. There is clearly opportunity to develop the non-member group into valuable members of the programme, with some already engaged at the highest profile level. There is also value in recognising the capacity of the trailblazers and masters that are in tiers 1 and 2, and offering them a pathway to move up the tiers (e.g., investigating whether their positioning is due to non-claiming of sales to earn points etc.). Similarly for the aspirants and

advocates sitting in tier 1. It is particularly of importance to explore those organisations in tier 3 and tier 4 who are in the basic and associates profiles – as these are potentially disengaging from the programme.

Figure 3 about here

Step 4: Optimizing on E2V profiles

In the final step, we use the profiling as a basis to pinpoint specific customers. We define the Trailblazers as our target profile, that is, the ideal profile that we would like our channel partners to achieve and is realistically achievable for a broad population of customers (unlike the Masters profile). We applied propensity-matching analysis to identify the level of potential amongst programme members and non-members to develop the Trailblazers profile (table 3).

Table 3 about here

Using propensity matching against our E2V profiles allows us to identify those areas that we can target customer relationships on. Referring to table 3, there are 360 customers, 322 of which are non-member customers, with the highest propensity match to the Trailblazers profile. Looking at the E2V dimensions we can see that they are already operating at a high level. For that group, the supplier may wish to focus on recency – in terms of the reason (s) for lower recency and how, relatedly, to stimulate more recent transactions. For the lowest propensity group, the supplier may concentrate on increasing both frequency and recency, before thinking about building engagement in terms of breadth in the relationship.

However, it is those customers with the lowest engagement that can offer the most potential in terms of growth. Indeed, channel partner programmes should constantly be thinking about their flow through the programme from the bottom tier up in order to account for attrition over time. We divided the lowest propensity group into quintets to better

understand their E2V (table 4). The 23 channel partners in the top quintet are already engaging with the breadth of the portfolio, but fall short on recency. Whereas those in the 11-15% and 16-20% quintets score high on recency but fall sort on frequency and value.

Table 4 about here

With this step-wise E2V approach, we offer a glimpse of how customer-supplier relationships can be examined in detail nowadays, making use of large volumes of readily available behavioural data that are available. In this way, we are better able to assess what the current and potential ROI of customer-supplier relationships is.

The future: developing a research agenda for customer-supplier relationships

Echoing de Ruyter et al. (2001), we contend customer-supplier relationships in high-tech markets are still and will continue to be a complex phenomenon. This is why it seems pertinent for (industrial) marketing scholars to widen our understanding and further insights by developing theory-based frameworks and to subject these to empirical explorations. In order to facilitate this we look to the future and offer a number of recommended research directions as a conclusion to this paper.

Firstly, there is still a paucity of theorizing with respect to the nature of manifestations of behavioural engagement. Although our analysis of the E2V was based on a large set of accessible (i.e., available and sales-related) parameters, there is little guidance as to what parameters of behavioural engagement would offer a robust diagnosticity with regards to relationship performance. Departing from the accessibility-diagnosticity framework (Feldman and Lynch 1988), further theory development with respect to a measurement approach is needed that allows for appropriate specification of measurement models to identify meaningful relationships between operational constructs, to establish causal direction and provide guidelines on how to measure them. Such an approach would benefit from the

inclusion of measures that reflect other important partner programme elements, such as customer learning and social interactions in communities that are part of today's relationship platforms. Taking the potential of customer-to-customer interactions into account, for instance, measures that trace online behavioural engagement and gauge their impact on financial goals and objectives is an area that future research could explore. Future research should also examine behavioural measures that could complement cognitive and affective antecedents, as proposed by de Ruyter et al. (2001). For example, observable indicators of knowledge sharing or peer support through information and social exchange on virtual and mobile platforms (Kleijnen et al. 2009).

Secondly, as substantially refined targeting strategies offer potential for further extending customer-supplier relationships - and our empirical case illustrates the usefulness of combining member and non-member customer profiles with structural programme characteristics (e.g., tiers) - further research is needed to develop information-richer persona profiles. Beyond analysis of behavioural data, scaling profile data up to the persona level may be based on analysis of psychographic and/or firmographic data of member and non-member customers. This will help suppliers understand customers (and prospective customers) better and will make it easier to tailor content, formats and communication channels to the specific needs, behaviours, concerns and sales lifecycle stages of different factions in the customer base. This, in turn, has the potential to result in a lower cost-per-lead and cost-per-member, as well as higher engagement productivity. We recommend that future research should focus on persona development with the objective of assisting suppliers in developing programmatic targeting strategies that drive engaging customer-supplier relationships over the long-term - taking into account the need to refresh strategies on a rolling cycle based on changing behavioural profiles.

Thirdly, and related to further development of customer profiles, there is a need for research that examines which specific strategies suppliers can deploy to drive value generation. Different ways of incentivizing and segmentation of types of benefits and rewards can be tailored to different engagement profiles. From a behavioural engagement perspective our empirical case suggests a stepped approach targeted to each profile. Indeed, programme ROI is often calculated on the resources (both in terms of human and capital) required managing a partner program. The ability to target finely tuned segments using the E2V approach with customisable incentives to drive desirable behaviour allows for a higher programme ROI. Further, customer motivations, commitment and trust levels with respect to relationships with suppliers vary widely and so do customer perceptions of the motivations of suppliers to offer programme benefits. For example, SPIFFS (Special Payment Incentive For Fast Sales) may be more motivating to those in lower tiers of a programme as they build their sales profile, whilst those in higher tiers may find stretch goals more motivating. Tailoring programme benefits to customer motivations is expected to have a dynamic impact on how customers engage in relationships with suppliers. Further research is needed to map the intricacies of programme strategies and their changing impact on customer engagement over time.

Fourthly, despite membership structures and online platform firewalls, customer-supplier relationships do not develop in isolation and contingencies of the wider socio-political environment should be taken into account in relation to customer-supplier relationships. The use of large sets of behavioural data and the practice of micro-targeting is subject to increasing regulatory scrutiny and shifts in public opinion. For instance, in Europe the General Data Protection Regulation (GDPR) has been deployed and it marks a heightened privacy consciousness among businesses and their customers. Customers expect suppliers to protect their data and offer privacy safeguards. On the other hand, these developments offer

several opportunities for deepening relationships. One is around the newly coined buzzwords 're-engagement' and 're-permissioning' and designing a communication campaign around customer data protection to re-engage customers in relationships. Future research should assess the effectiveness of such strategies over time. As a note of caution, we would like to draw attention to the fact that the big data analysis of behavioural engagement could be affected by bias, such as, for example, based on the automated data input. Future research needs to establish to what extent bias potentially obscure the focus on customer-supplier relationships.

Finally, and despite repeated calls for research in the past and present, research that adopts a longitudinal perspective of customer-supplier remains scarce. Therefore, we reiterate de Ruyter et al.'s (2001) call to study these relationships over time. With an increasing emphasis on agility, shorter budget and sales cycles and market volatility and uncertainty, customer-supplier relationships in high technology markets are subject to dynamic changes, future research that is based on longitudinal designs has the potential to better inform and equip customers and suppliers to manage their relationships in a mutually satisfying manner. While we do not have a crystal ball, we do believe that an exciting future awaits research on customer-supplier relationship management in high technology markets and we hope that our analysis of the past and present will assist both marketing scholars and practitioners in shaping that future.

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	Average Total No. of Transactions (s.d.)	Average Total No. of Units Purchased (s.d.)	Average Total Value of Sales (s.d.)
Non-Member (n=94,944)	6 (36)	19.28 (236.08)	4,994.18 (43,870.48)
Tier 1 (n=1587)	16 (54)	43.44 (236.03)	12,732.56 (61,091.87)
Tier 2 (n=534)	55 (214)	165.28 (617.52)	49,586.74 (153,917.32)
Tier 3 (n=222)	116 (332)	421.27 (1293.58)	158,854.15 (489,324.29)
Tier 4 (n=247)	151 (398)	504.95 (1066.76)	278,831.89 (620,816.91)

Table 1: Overview of member programme performance and non-members

Profile	N	Recency	Breadth (Ave. product categories)	Frequency (No. of transactions)	Value (Ave. sales)	Scope for growth
Basics	17544	1	1	1.48	1006.8004	Low on all indicators
Associates	16754	2	1	1.99	1387.8979	Low on all indicators but more recent
Builders	15636	3	1	2.33	1720.8438	Increase in all but breadth
Aspirants	14129	4	1	3.22	1860.8009	Increase frequency and recency
Advocates	12846	5	1	4.53	2170.7912	Increase in recency, frequency and value
Custodians	8656	2.23	2	7.09	7749.0075	Breadth growing but reduced recency
Trailblazers	11306	4.57	3	16.92	13124.8958	Strong on all indicators
Masters	655	4.33	6	306.02	438799.2152	Excel on breadth, frequency and value

Table 2: E2V profiles for the population

Propensity	N	Recency	Product	Frequency	Sales
0-25%	67809 (66603 non-members)	3	1.12	3	2227.02
26-50%	181 (160 non-members)	3	3.16	9	7659.92
51-75%	461 (429 non-members)	3	3.27	18	20100.51
76-100%	360 (322 non-members)	3	4.46	18	21226.82

Table 3: Propensity matching of members and non-members to Trailblazer profile

Propensity	N	Recency	Breadth	Frequency	Value
0-5%	52874	2	1.11	3	2311.27
6-10%	2243	3	1.90	6	3942.98
11-15%	2676	5	1.24	9	4251.44
16-20%	9991	5	1.01	2	791.68
21-25%	23	2	3.43	21	29177.51

Table 4: Quintets of low propensity matches

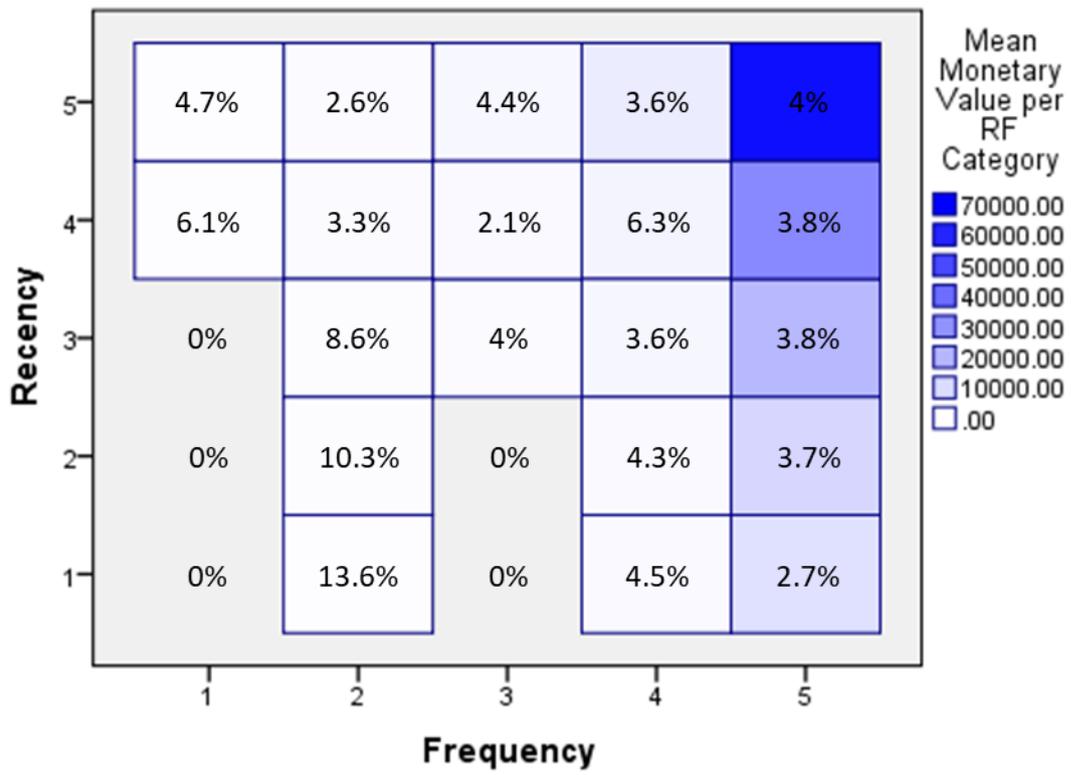| Propensity	N	Recency	Breadth	Frequency	Value
0-5%	52874	2	1.11	3	2311.27
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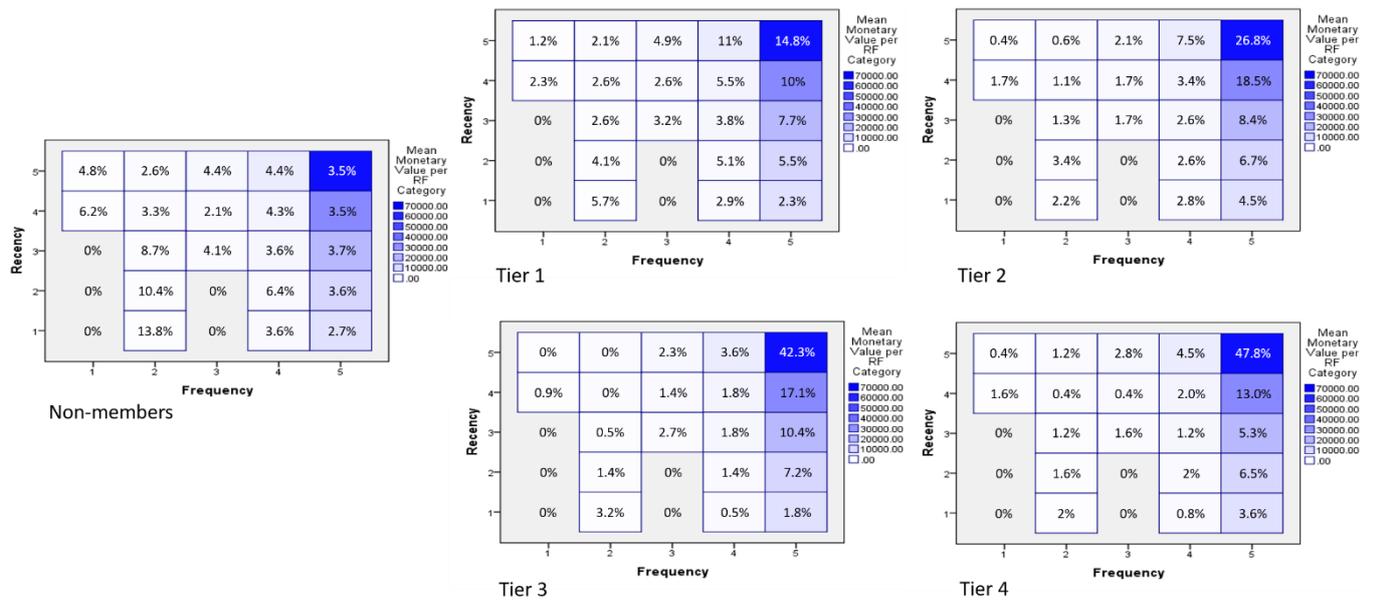Figure 1: E2V heatmap for the population (members and non-members)

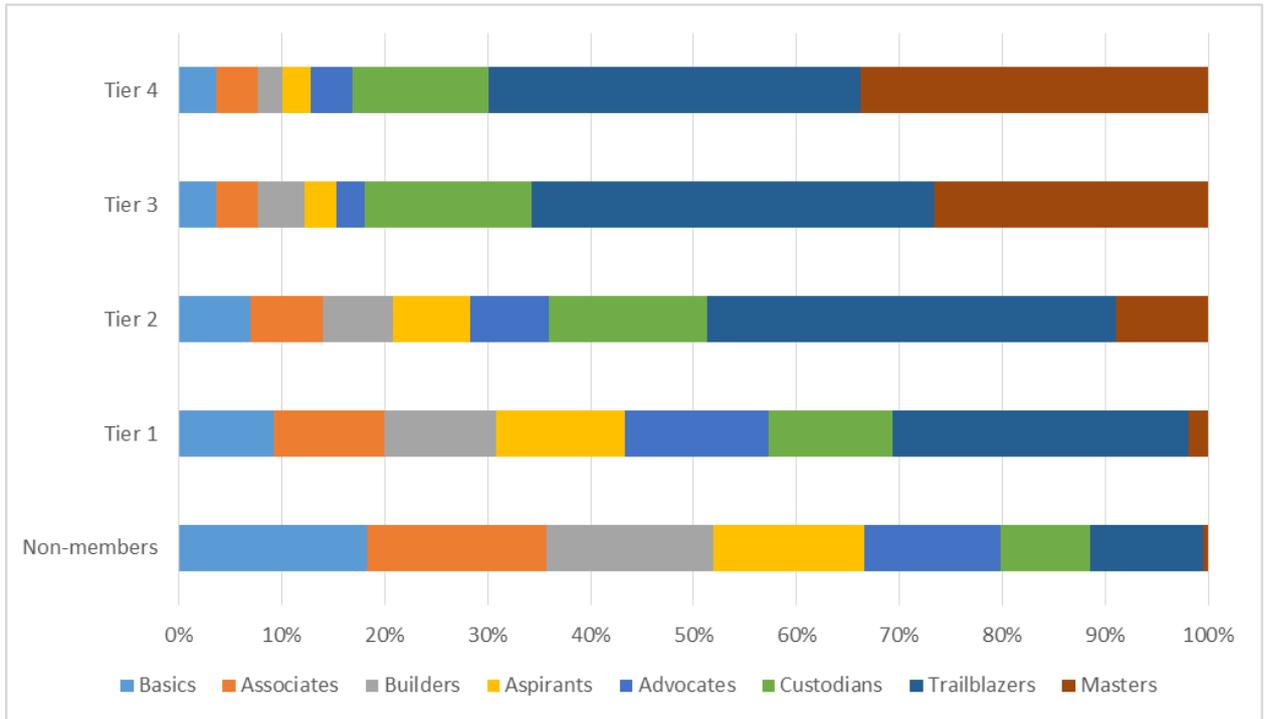Figure 2: Mapping of non-members and members by tier on E2V heatmap

Figure 3: E2V profiles mapped onto existing programme tiers