# The role of services in creating brand loyalty for B2B manufacturers

Chris Raddats [a,*], Stuart Roper [b], Rachel Ashman [a]

[a] Management School, University of Liverpool, Chatham Street, Liverpool L69 7ZH, United Kingdom
[b] Newcastle Business School, Northumbria University, City Campus East, Newcastle-upon-Tyne NE1 8ST, United Kingdom

## 1. Introduction

Traditionally product-dominant business-to-business (B2B) manufacturers create differentiation and competitive advantage by providing services alongside their product offerings (Schaarschmidt et al., 2018). In so doing, some manufacturers move further away from their core product identity, and the implications of this approach need to be considered (Neu & Brown, 2005). In this paper, we address the notion of "service infusion"; that is, when the relative importance of service offerings to a manufacturer increases compared to that of product offerings (Brax, 2005; Gomes et al., 2021). Despite the rapid increase in research addressing service infusion over recent years (Raddats et al., 2019), few studies have considered the importance of branding (Wirtz & Kowalkowski, 2023). This is surprising since a strong brand is one of the major determinants of success in a B2B context (Brown et al., 2011a; Guenther & Guenther, 2019; Roper & Davies, 2010). We define a strong brand as one for which customers have a favorable perception of the total benefits or associations that it possesses, and thus, they continue to be customers of the supplier (Aaker, 2012; Bendixen et al., 2004).

In the context of service infusion, it is important to understand whether a product brand should be extended to services (Shankar et al., 2009). For example, a strong product brand might be weakened if service quality is inferior to product quality (Nenonen et al., 2014). Conversely, B2B services are more intangible than products, so a strong brand can act as a risk reduction heuristic for buyers (Brown et al., 2011). While studies about manufacturers' service branding are scarce, IBM is a case in point. IBM has one of the world's strongest B2B brands (Interbrand, 2022), transformed over several decades from one where value has come from its products to one where value comes from its services (e.g., consulting) (Spohrer, 2017).

Manufacturers' branding can be viewed in the wider context of B2B branding. Historically, B2B branding has been treated as less relevant than branding within a business-to-consumer (B2C) context (Kim et al., 1999; Roberts et al., 2014) despite calls in the practitioner community to not underestimate the power of the B2B brand (Jefferson, 2022). The development of brand management is thus at its early stages in B2B

markets (Herbst & Merz, 2011; Keränen et al., 2012; Seyedghorban et al., 2016). Nevertheless, a strong B2B brand provides companies with a better chance to get on buyers' shortlists (Mudambi, 2002; Wise & Zednickova, 2009), charge a price premium, and have customers recommend the brand to others (Bendixen et al., 2004). Studies of B2B buyers from different sectors suggest that while brands do influence organizational buyers' decision-making, their influence is limited, and other factors such as logistics and service are more relevant (Grönroos & Helle, 2010; Leek & Christodoulides, 2011; Zablah et al., 2010).

This study seeks to address three main gaps in the literature. First, limited research addresses branding in the context of service infusion (Leek & Christodoulides, 2011; Seyedghorban et al., 2016). Moreover, considering the customer, rather than the manufacturer, perspective is quite rare in the service infusion research stream (Martin et al., 2019). In terms of branding and service infusion, only three papers exist. Cassia et al. (2017) consider how product and service brand images co-exist in the minds of B2B consumers, with the latter becoming more prominent through co-created service experiences. Jang et al. (2021) consider how an effective servitization experience can promote customer attachment to a brand in a B2C context. Dimitriu and Warlop (2022) demonstrate that consumers respond favorably when product brands extend to services, enabling them to extend their service offerings. Second, while the benefits of a strong brand are apparent in B2B markets, scant research has considered the elements that create brand loyalty, such as services and brand familiarity (Persson, 2010). Indeed, prior research does not address the multidimensional nature of the B2B brand (Glynn, 2012). For example, the relative importance of different services in driving brand loyalty is unclear (Kittur & Chatterjee, 2021). Persson (2010), in an exploratory study, considers, among other factors, *distribution* (e.g., reliable deliveries), *service* (e.g., augmented service offerings), and *brand familiarity* as creating a strong B2B brand. However, Persson (2010) does not investigate the relative importance of different categories of services; that is, customer support services (e.g., product demonstrations), product support services (e.g., user training), and operational services (e.g., product operations) (Partanen et al., 2017) despite these offerings being distinct. Third, there is a need for further research that considers

the relative importance of branding in different industries (Keränen et al., 2012) and service infusion in different manufacturing sectors (Vendrell-Herrero et al., 2022). Existing research has a relatively narrow focus; for example, Cassia et al. (2017) collected data from audiologists about hearing aids. Indeed, research into manufacturers' services is often concentrated on firms that derive a substantial share of their overall revenue from services (e.g., IBM); that is, a high service intensity (Patel et al., 2019). However, services are also important for manufacturers who derive a lower share of their revenue from services (Dachs et al., 2014; Lay et al., 2010); that is, a low service intensity. Thus, the importance of branding to manufacturers with high and low service intensity is worthy of investigation. To address these gaps, *this study aims to assess the relative importance of brand familiarity and different service categories in creating brand loyalty for B2B manufacturers.*

This study addresses a need for more research on customer perceptions of B2B branding (Glynn, 2012; Leek & Christodoulides, 2011). It finds that customer support services are the pre-eminent driver of brand loyalty, followed by brand familiarity. Thus, we demonstrate the importance of creating and promoting memorable brands for B2B manufacturers that include services. We collected data from two distinct sectors based on service intensity (high vs. low). Customer support services are most important for manufacturers with a high service intensity, while operational services are more important for manufacturers with a low service intensity. This latter result contradicts existing research that usually equates operational services to a high service intensity, but in this case, operational services are used to enhance the manufacturer's overall product solution and thus contribute to the corporate brand.

## 2. Theoretical background

### 2.1. Branding manufacturers' services

Despite considerable academic interest in branding, there is not one single explanation of what the brand construct is and where precisely the benefit comes from that drives brand value (Dall'Olmo Riley, 2016). As branding research developed, some questioned whether branding is of use to B2B customers (Saunders & Watt, 1979) and why B2B customers should purchase a brand over non-branded alternatives (Seyedghorban et al., 2016). Many B2B organizations became stuck at the "brand as reference" stage of the brand hierarchy (Goodyear, 1993); that is, the organization has visual imagery, such as logos, that are displayed on vehicles, website, etc., but there is no emotional resonance leading to a brand personality. It was questioned whether B2B brands need the same level of emotional resonance as B2C brands (Kuhn et al., 2008) since B2B buyers are assumed to be more rational and motivated by price (Fill & Fill, 2005). As the literature developed, Roper and Davies (2010) highlighted the importance of the affective components of brand associations to business customers' levels of satisfaction. More recently, there has been a clear recognition that B2B markets have become more competitive and that the use of branding as a method of creating value and reducing buyer risk has increased (Beverland, 2018; Graham & Mudambi, 2016).

Customers seek a combination of product and service offerings, and this is how value is created (Bendixen et al., 2004; Martin et al., 2019). Thus, customers' perceptions of a manufacturer's brand image incorporate both product and service elements (Cassia et al., 2017). Mudambi et al. (1997) explain that B2B brand value is made up of the performance of a company's products, distribution, support services, and reputation, with the corporate brand becoming the differentiator for many B2B organizations (Roper & Fill, 2012). Brand familiarity and brand loyalty are two of the central pillars of brand equity, the added value generated for both customers and the firm (Aaker, 1996). *Brand familiarity*, according to Cambell and Keller (2003, p. 293), "captures consumers' brand knowledge structures; that is, the brand associations that exist within a consumer's memory." This can be based on direct or indirect

involvement with the brand. Brand knowledge is a structure in memory (Keller, 1993), and as such, it is the beginning of the process through which consumers become familiar with a brand. Without knowledge, there can be no liking and no purchase and therefore, ultimately, no brand loyalty. Knowledge thus "impacts the attitudinal and behavioral brand response of customers" (Koll & von Wallpach, 2009, p. 338). Meanwhile, *brand loyalty* is "the biased behavioral response expressed over time by some decision-making unit with respect to one or more alternative brands out of a set of such brands" (Jacoby and Chestnut, 1978, p. 80). B2B organizations, therefore, need to develop marketing programs that create customer awareness and favorable attitudes toward the brand to ultimately create loyalty (Glynn, 2012).

### 2.2. Service intensity in manufacturers

Manufacturers are motivated to increase their service intensity through offering more services that address customer needs and create new revenue streams (Baines et al., 2009). Given that many products are increasingly homogenous, manufacturers are turning to services to provide differentiation in competitive markets (Fischer et al., 2012). However, service intensity is more pronounced for manufacturers of complex products compared with manufacturers of commodity products (Raddats et al., 2016). Manufacturers of complex products may offer services to help customers maintain and operate their products since the risk of product breakdown brings serious consequences (Raddats & Kowalkowski, 2014). For manufacturers of low-complexity products, maintenance and operational services are less important as customers can more easily deal with the consequences of product breakdowns themselves (Dachs et al., 2014).

Manufacturers are likely to enhance brand value if they have well-regarded brand reputations based on service competencies (Brown et al., 2011a; Mudambi et al., 1997). Equally, in the context of a manufacturer becoming a service-based platform provider, the brand position of the firm may need to shift to reflect its new market position (Beverungen et al., 2020). Indeed, this new brand position may need to be developed on a global basis, and the heterogenic nature of services, when delivered by local subsidiaries, means that this is a major challenge (Hakanen et al., 2017). Thus, in a B2B context, while brands are important for manufacturers, there is evidence that brand familiarity is less relevant than other drivers, such as the services provided (Grönroos & Helle, 2010; Zablah et al., 2010).

### 2.3. Hypotheses and theoretical framework

#### 2.3.1. Drivers of brand loyalty

We are concerned with identifying the relative importance of services and brand familiarity in creating brand loyalty (Elsäßer & Wirtz, 2017; Zablah, 2010). Assessing brand loyalty helps us to determine whether customers receive high value from their supplier compared to other suppliers and continue their patronage (Wang et al., 2018). Brand loyalty is driven in part by how familiar customers are with the brand; that is, their experience and knowledge of it (Biedenbach & Marell, 2010; Kent & Allen, 1994) and by the manufacturers' service offerings (Persson, 2010).

We wish to provide an assessment of the relative importance of different service categories in creating brand strength and so adapt a prior categorization of manufacturers' service offerings by Partanen et al. (2017) to present three categories. *Customer support services* encompass service offerings to enable the product sale, such as product delivery, fast lead times, ease of doing business, product demonstrations, and market updates. *Product support services* provide help to the customer to maintain the product condition and include warranty and user training. *Operational services* offer support with product use, including project management and outcome-based contracts. While other service categories have been presented in the literature (Raddats et al., 2019), these three categories are the major categories that

manufacturers provide (Mathieu, 2001).

An established association exists in a B2C context between brand familiarity and buyers' perceptions of the brand (Aaker, 1996; Kent & Allen, 1994). In a B2B context, research also suggests that brand familiarity leads to improved brand loyalty (Davis et al., 2009; Gomes et al., 2016; Homburg et al., 2010; Kittur & Chatterjee, 2021). Moreover, promoting a single corporate brand is often more effective in building brand familiarity than promoting sub-brands (Kuhn et al., 2008; Roper, 2016; Tuli et al., 2007). Brand familiarity helps a company to get on a buyer's "long list" and is a risk reduction mechanism, meaning that the supplier with the most familiar brand is likely to benefit at the short-listing and decision-making stages (Hutton, 1997; Seyedghorban et al., 2016). Thus, brand familiarity among customers is associated with higher brand loyalty (Bennett et al., 2005, Persson, 2010). Therefore, the following hypothesis is proposed:

H1: A positive association exists between brand familiarity and brand loyalty.

Customer support services include many factors that B2B buyers have come to expect as standard, such as suppliers providing on-time, in-full product deliveries, being easy companies to deal with, and providing pre-sales activities such as product demonstrations (Persson, 2010). Customer support services are sometimes described as *service quality* and can be a driver of brand loyalty (Elsäßer & Wirtz, 2017; Kittur & Chatterjee, 2021). However, these services are recognized mainly as order qualifiers to get on a shortlist rather than factors that will win bids (Wouters, 2004). Nevertheless, getting these factors right is a key determinant of brand strength (McQuiston, 2004). In particular, product delivery performance is an important driver of B2B brand loyalty (Bendixen et al., 2004; Blombäck & Axelsson, 2007; Elsäßer & Wirtz, 2017; Mudambi et al., 1997). While customer support services do not generally lead to additional revenue streams for B2B suppliers, they can lead to loyalty towards brands, so we hypothesize the following:

H2: A positive association exists between the provision of customer support services and brand loyalty.

Product support services are those that are designed to enhance the performance and sale of a manufacturer's products (Partanen et al., 2017). They can be distinguished from customer support services in that they are likely to be chargeable offerings, such as technical support and training. Their importance for creating a strong brand comes through augmenting the product offering and helping to create market differentiation (Brown et al., 2007; McQuiston, 2004; Mudambi et al., 1997). Moreover, customers value the expertise and advice that B2B suppliers provide, strengthening brand loyalty (Persson, 2010). While product support services are heterogeneous and include extended product warranties, the overarching notion that the manufacturer supports its products is most important (Kuhn et al., 2008; Leek & Christodoulides, 2012). Thus, product support services offer customers access to manufacturers' expertise and knowledge, enhancing brand loyalty, so we hypothesize the following:

H3: A positive association exists between the provision of product support services and brand loyalty.

Operational services are designed to help manufacturers manage the customer's operational activities related to the supplied products or the processes in which these products are used (Partanen et al., 2017). Operational services can also deliver performance guarantees that are managed through service level agreements (SLAs), which are valued by customers (Wirtz & Kowalkowski, 2023). These services are often conceived as being at the vanguard of what manufacturers can offer (Opazo-Basáez et al., 2022), and their importance to brand loyalty in a B2B context has been noted (Juga et al., 2018; Tuli et al., 2007). The long-term and value-added nature of such offerings also increases opportunities for cross-selling, which can improve brand loyalty (Keller & Kotler, 2022; Van der Borgh et al., 2023). In this regard, Jalkala and Keränen (2014) conceptualize *long-term service partners*, whose brand position is to take care of the operational aspects of the supplied products to create customer value and loyalty. Indeed, as the provision of

operational services starts to dominate a manufacturer's customer offerings (e.g., IBM), their importance for brand loyalty increases (Shankar et al., 2009). Operational services help manufacturers to better understand customer needs and align with customers' internal processes, thus helping to create brand loyalty; hence, we hypothesize the following:

H4: A positive association exists between the provision of operational services and brand loyalty.

### 2.3.2. The moderating role of service intensity

Manufacturers have different levels of service intensity, and one of the main drivers of this is product complexity (Raddats et al., 2016). Complex products are usually high-cost items, involving intensive engineering and customization, and are often combined in systems and networks, such as IT and telecommunications equipment (Davies et al., 2011; Ren & Yeo, 2006). Buyers of complex products often seek collaborative relationships with suppliers to help manage this complexity, which manifests in greater service intensity, through service offerings (e.g., remote monitoring) (Momeni & Martinsuo, 2018). Services also play an important role for manufacturers of less complex products (Dachs et al., 2014) with low service intensity (e.g., installation and maintenance) (Lay et al., 2010). Thus, services are valuable for buyers of both complex and non-complex products, although the service intensity of the manufacturers will vary. We therefore use service intensity as a moderator to reassess the relationships in the theoretical framework.

The level of involvement that customers have concerning a product is an important determinant of their purchasing behavior (Peter et al., 1999). It can be assumed that low-complexity products in a B2B context are similar to low-involvement products in the B2C context; that is, products that are bought regularly, with little thought going into the decision-making process (Zaichkowsky, 1985). For low-involvement B2C products, heightened brand familiarity can lead to greater loyalty (Lim and Guzmán, 2022). Buyers are less motivated to investigate the features and benefits of low- compared to high-involvement products or to assess their relative merits against alternative offerings from competitors (East, 1997). The brand becomes the key differentiating factor, providing the customer's focal point where there may be few or no other unique selling propositions (Bennett et al., 2005). In a B2B context, we also equate low-complexity products with low service intensity. Persson (2010) identified the importance of brand familiarity in creating loyalty in the corrugated cardboard industry (a low-complexity product). Mudambi (2002) also found that manufacturers enhance brand familiarity for bearings by communicating the importance of the purchase decision rather than the features/benefits of the products. Thus, in a saturated marketplace for products in which customers have little interest, brands simplify decisions and reduce risks (Kapferer, 2012). In summary, with low service intensity, brand familiarity is a heuristic used by buyers to assess product and service quality and ultimately create brand loyalty. We therefore hypothesize the following:

H5a: Brand familiarity has a stronger impact on brand loyalty for low service intensity than high service intensity.

Customer support services are offerings that are generally considered to be part of the product sale and not charged separately (Persson, 2010). At one level, they are about getting the basics right, such as being a straightforward company to do business with (Parasuraman, 1998). At another level, the manufacturer may offer demonstrations of its products and how they align with market and technological trends, particularly relevant for complex products in fast-changing markets; for example, information and communication technology (ICT) (Partanen et al., 2017). These are high–service intensity products and the primary services required are those necessary to keep products operating efficiently (Lichtenthal & Long, 1998; Raddats et al., 2016). This is what Brown et al. (2011a) call *service competency* and is a driver of brand loyalty for such manufacturers. Through manufacturers delivering customer support services, customers procuring complex products will be able to

better understand how the products fit within the market and technological landscape, and as such, this can alleviate some of the risks of buying them (Leek & Christodoulides, 2012). Thus, the focus of customer support services is helping customers buy the right products, reducing the uncertainty around which is the best option. So we hypothesize the following:

H5b: Customer support services have a stronger impact on brand loyalty for high service intensity than low service intensity.

Product support services provide manufacturers with the means to develop a new revenue stream from their services as well as create market differentiation (Frohlich & Dixon, 2001; Mathieu, 2001; Raddats & Easingwood, 2010). Baines and Lightfoot (2014) note that product support services are appropriate for customers who want manufacturers to undertake some (but not all) service activities for them. This flexible provision of expertise provides strong customer value (Fischer et al., 2012), with manufacturers of less complex products limiting their service offerings to product support services (Raddats & Kowalkowski, 2014), hence low service provision. Oliva and Kallenberg (2003) note the difficulties for organizations that design, build, and deliver complex products to "get excited" about repairing them, and consequently, customers may not value suppliers that offer such services. It is not, therefore, surprising that manufacturers providing complex products have less motivation to offer product support services (Fischer et al., 2012). On the contrary, low–service intensity manufacturers with less complex products have stronger motivations to offer such services, and these are valued by customers (Mathieu, 2001). We thus hypothesize the following:

H5c: Product support services have a stronger impact on brand loyalty for low service intensity than high service intensity.

Much recent service infusion literature considers operational services and their applicability to helping customers operate complex products and systems as part of their internal processes (Partanen et al., 2019). Baines and Lightfoot (2014) consider *advanced services* where manufacturers take on some degree of operational control of complex products and guarantee their availability or uptime. Thus, these service offerings are outcome-based, which can enhance trust between the supplier and customer as the manufacturer's offering aligns with customer needs (Korkeamäki & Kohtamäki, 2020; Mathieu, 2001). Operational services are particularly important for customers buying high-complexity products from high–service intensity manufacturers since they may lack the skills to support and operate the products and thus rely on their suppliers (Raddats & Kowalkowski, 2014). Moreover, customers are often under pressure to downsize and redefine their core competencies, with increasing product complexity leading to the rise of service outsourcing (Gebauer, 2008; Oliva & Kallenberg, 2003). Thus, operational services help customers mitigate the risks of purchasing and operating complex products procured from high–service intensity manufacturers (Brax & Jonsson, 2009). We hypothesize the following:

H5d: Operational services have a stronger impact on brand loyalty for high service intensity than low service intensity.

The theoretical framework for the study is presented in Fig. 1.

## 3. Methodology

### 3.1. Empirical context

Our study aimed to address branding in different manufacturing sectors to consider high and low service intensity. First, we sought to identify levels of product complexity in different industries since service intensity is linked to product complexity (Raddats et al., 2016). We used
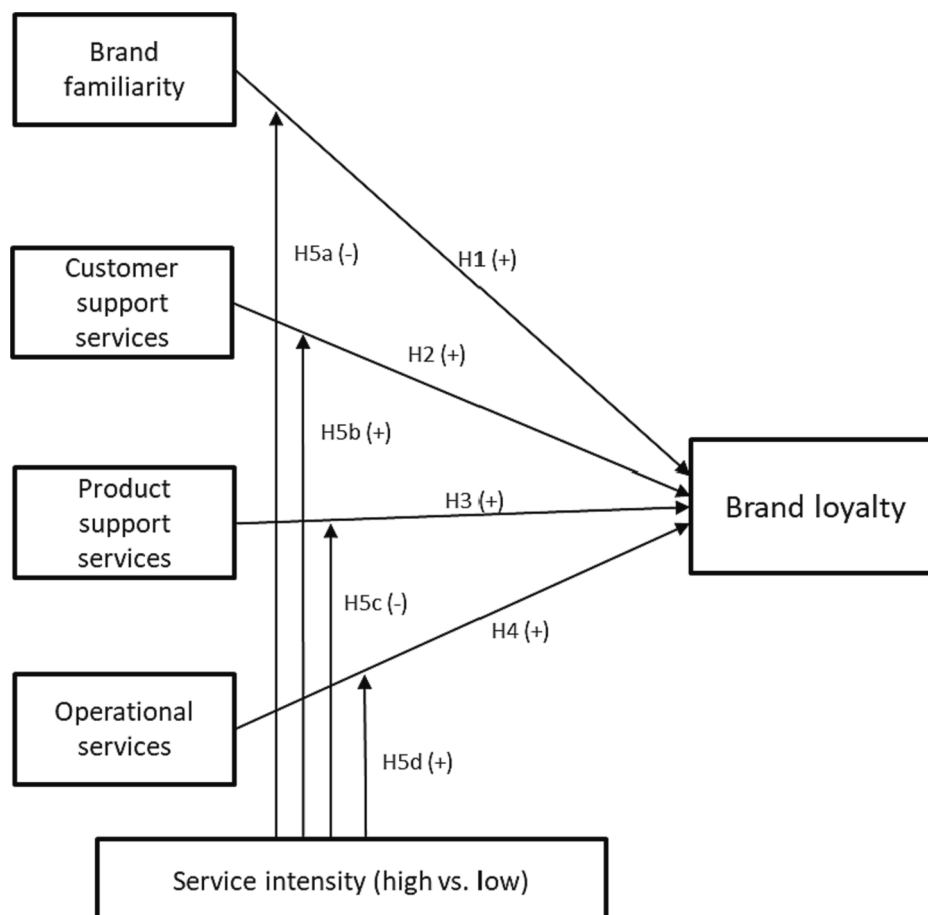


**Fig. 1.** Theoretical framework.

the United Kingdom's (UK's) Standard Industrial Classifications (SIC) codes, considering the service intensity of several companies in each manufacturing SIC code group via their financial reports. There is clear evidence that photocopiers/printers are complex products. Companies in the photocopier/printer industry achieve at least 25 % of their turnover from services, hence a high service intensity. Firms in two other industries, paper/packaging and aggregates, have low service intensity (<10 % turnover from services).

Second, we undertook interviews to develop a better understanding of B2B branding (Roper & Davies, 2010). We conducted interviews with nine buyers from these industries (photocopiers/printers, paper/packaging, and aggregates), three interviews in each. The purpose was to ascertain the relative importance of brand familiarity and services in buyers' perceptions of strong B2B brands. The findings showed that services are important for all buyers; however, respondents in the aggregates industry questioned whether branding was an appropriate term in a commodity-based business. Our subsequent investigation thus focused on the paper/packaging and photocopier/printer industries. We discussed the proposed constructs in our theoretical framework with the buyers. The respondents agreed that the proposed service categories (customer support services, product support services, and operations services) were appropriate for their markets. However, the interviews suggested that we needed to extend the scope of customer support services to not only include product deliveries and be easy to do business with (Persson, 2010) but also include product demonstrations (Partanen et al., 2017).

### 3.2. Research instrument and measures

Our primary method of data collection was through conducting two surveys in separate industries using the same instrument. In developing the survey instrument, we took care in utilizing established measures and scales (Hulland et al., 2018). To this end, where possible, we adapted pre-established scales and, where these were not available, operationalized existing measures. In terms of the independent variables, we considered *brand familiarity* (3 items) as a driver of brand loyalty and used a scale from Kent and Allen (1994). To operationalize the different categories of services, we adapted the typology of industrial services of Partanen et al. (2017): *customer support services* (5 items), including different pre-sale activities; *product support services* (3 items), including training and warranty; and *operational services* (3 items), designed to help customers operate the supplied equipment. Our dependent variable was *brand loyalty* (3 items), adapted from Wang et al. (2018). The measures were assessed using a seven-point Likert-type scale, where "1″ means "strongly disagree" and "7" means "strongly agree." All our latent variables were modeled with reflective indicators (Kent & Allen, 1994; Partanen et al., 2017; Wang et al., 2018).

The survey included questions filtering the respondents so that only managers (1) who had decision-making responsibility for purchasing products and services could participate and (2) were customers of the manufacturers about whom they were responding. For the photocopier/printer study, particular attention was paid to ensuring that buyers were answering in their capacity as corporate decision-makers rather than individuals. In addition, the respondents were classified by such variables as company size, sector, spending on the products, and the share of spending with the focal manufacturer. The survey instrument was pilot-tested by two academic colleagues and four managers to ensure that the items were clear and their meanings understood (Saunders et al., 2016). No major problems were identified except for the ordering of some questions. This feedback was considered when developing the final survey instrument, which was designed to be administered online in the UK.

### 3.3. Data collection and sample characteristics

We implemented the survey in two sectors to provide a contrast

based on manufacturers' service intensity comparing the elements creating brand loyalty for companies with different levels (low vs. high service intensity). For the paper/packaging industry (the first study), we ran the survey with customers of one firm. We identified a market leader in this sector with a strong brand according to the three buyers interviewed, a judgment supported by secondary data. The firm promotes its services alongside products, although services are not a major financial component of its turnover. Using a market research company as an intermediary, an agreement was reached with the firm's senior management to take part in the study. The survey was administered by the market research company using a database of the paper/packaging firm's customers, and 173 usable responses were received. These were mainly organizations in the manufacturing (28 %), finance, insurance, and real estate (26 %), and education (14 %) sectors.

For the photocopier/printer industry (the second study), given the ubiquity of these products, it was appropriate to collect data from a B2B survey panel, a commonly used approach in this field (e.g., Zablah et al., 2010). A market research company with experience in running consumer panels administered the survey. Given the wide range of firms that the respondents might consider to be strong brands within this sector, we gave them a choice of the five leading firms in the market. We asked them to complete the survey for the firm they considered to be a strong brand but crucially had experience of purchasing products and services from in a corporate, rather than personal, capacity. If they did not have any experience purchasing products and services from one of these brands, they terminated the survey (see Table A1 for a breakdown of these firms). All five firms provide a wide range of services that conform to the three categories used in this study (customer support, product support, operational). The second survey garnered 155 responses, mainly from organizations in education (18 %), other services (18 %), and the finance, insurance, and real estate (16 %) sectors. The overall sample therefore numbered 328 responses.

### 3.4. Preliminary data analysis

We provide descriptive statistics for both samples separately in Table A2. For the first study, 77 % of all the respondents were either the sole or main decision-makers for the purchases and 60 % for the second study, giving us confidence in the respondents' ability to answer the survey questions accurately. In line with previous cross-sectional studies of B2B branding (e.g., Zablah et al., 2010), the respondents' organizations were from a wide range of sectors and of various sizes. For both studies, around 50 % of the respondents spent over 50 % of their available budget with the chosen supplier, demonstrating strong brand loyalty. Table A3 presents item statistics, including their sources, together with means and standard deviations for both samples separately. To provide further details on the characteristics of the data, correlation matrices are also provided in Tables A4, A5 for each dataset.

Study 1 comprises data relating to one focal firm, whereas Study 2 comprises data relating to five focal firms; therefore, it is important to confirm that our data do not violate assumptions of homogeneity of variance. To do this, we performed a one-way ANOVA on the dataset from Sample 2, using the five brands as categorical groups, testing them against our model constructs. We used a Bonferroni correction to adjust the alpha level for these statistical tests to control for the probability of committing a type 1 error. The analysis demonstrated no significant differences among any of the groups. Furthermore, using Levene's test, which tests whether the variance in scores is the same for each of the five groups, we have not violated this assumption as all significance values (Sig.) were above 0.05 (Table A6).

Furthermore, the respondents from both studies were from companies of varying sizes. It is important to consider whether there is variance in the perceptions of service offerings dependent on the level of turnover given that smaller companies may procure more services than larger companies because they lack in-house resources. To do this, we performed a one-way ANOVA on both datasets, using the level of

turnover (over £1 million and under £1 million) as categorical groups, and tested them against our model constructs, similar to the approach used by Zablah (2010). The results (including Levene's test) demonstrate that there were no significant differences among any of the groups (see Tables A7, A8). Our data were therefore considered suitable for further analysis, which we present in Section 4.

To reduce method biases, our respondents were (1) made aware that the data were collected anonymously and (2) not made aware of the specific relationships being tested (Podsakoff et al., 2003). Before undertaking the main analysis, it is important to check common method bias in cross-sectional, behavioral-nature studies (Podsakoff et al., 2003; Cheffi et al., 2023); we did so by adopting Harman's one-factor test (Koh et al., 2003). The co-variance explained by one factor is 32 %, indicating that common method bias was unlikely to be an issue.

## 4. Data analysis and results

We adopted a PLS-SEM technique for data analysis using SmartPLS version 3.3 (Ringle et al., 2015), conforming to established standards of best practice specified by Hair et al. (2017) and Henseler et al. (2016).

### 4.1. Measurement model

Our analysis comprised 17 measurement items, aggregating the whole dataset before testing for differences between two binary conditions using multi-group SEM. A detailed breakdown of our constructs' properties, including their reliability and validity, is shown in Table 1.

The checks presented in Table 1 suggest that the measures tested in PLS-SEM are reliable and valid (Fornell & Larcker, 1981). The reliability of the scale items is evidenced by their high composite reliability, with Cronbach's alpha coefficients (α) ranging from 0.75 to 0.89 and the average variances extracted (AVE) values ranging from 62 % to 82.5 %, within acceptable thresholds (Fornell & Larcker, 1981). Sixteen of the factor loadings are above 0.7, with only one factor loading falling slightly short of this threshold at 0.65 (Hair et al., 2019; Hulland, 1999). This indicates convergent validity and that the factors extract sufficient variance from each variable. Internal consistency within the model is therefore present.

The discriminant validity of the measures is evidenced by the AVE values for each of the constructs being greater than the squared factor correlation values among constructs (Fornell & Larcker, 1981); all values are greater, as shown in Table 1. Occasionally, the Fornell–Larcker criterion does not perform well, particularly when the indicator loadings on a construct differ only slightly (e.g., for this study, all the indicator loadings are between 0.65 and 0.93) (Henseler et al., 2015). We clarified our dataset's discriminant validity, first by examining the cross-loadings. This confirmed that the item values were highly correlated to the appropriate construct (Table 2).

Second, following Henseler et al. (2015), we checked the heterotrait-monotrait (HTMT) ratio. This is the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Hair et al., 2019). The value of HTMT should be less than 0.85 to 0.90 (Henseler et al., 2015). Table 3 shows that the values of HTMT are less than 0.85, which

**Table 2**
Cross Loadings.

| | Brand loyalty | Customer support service | Brand familiarity | Operational services | Product support services |
|---|---|---|---|---|---|
| **bra1** | *0.920* | 0.688 | 0.524 | 0.554 | 0.560 |
| **bra2** | *0.880* | 0.627 | 0.517 | 0.383 | 0.471 |
| **bra3** | *0.924* | 0.742 | 0.520 | 0.600 | 0.569 |
| **cust1** | 0.655 | *0.826* | 0.439 | 0.492 | 0.557 |
| **cust2** | 0.595 | *0.836* | 0.422 | 0.554 | 0.517 |
| **cust3** | 0.753 | *0.855* | 0.556 | 0.523 | 0.548 |
| **cust4** | 0.459 | *0.746* | 0.409 | 0.642 | 0.642 |
| **cust5** | 0.439 | *0.657* | 0.426 | 0.736 | 0.678 |
| **famm1** | 0.551 | 0.528 | *0.930* | 0.414 | 0.472 |
| **famm2** | 0.470 | 0.495 | *0.906* | 0.358 | 0.431 |
| **famm3** | 0.526 | 0.539 | *0.882* | 0.417 | 0.446 |
| **ope1** | 0.432 | 0.604 | 0.322 | *0.864* | 0.718 |
| **ope2** | 0.515 | 0.653 | 0.421 | *0.881* | 0.756 |
| **ope3** | 0.550 | 0.639 | 0.408 | *0.896* | 0.695 |
| **prod1** | 0.460 | 0.592 | 0.392 | 0.721 | *0.807* |
| **prod2** | 0.426 | 0.584 | 0.378 | 0.784 | *0.833* |
| **prod3** | 0.544 | 0.599 | 0.441 | 0.536 | *0.813* |

Note: Factor loadings of items with their constructs are shown as bold and italic.

is satisfactory.

The variance inflation factor (VIF) was used to assess any collinearity issues in the indicators. A VIF value above 5 demonstrates critical collinearity issues among the indicators (Hair et al., 2016). For this study, VIF values ranged from 1.372 to 3.314, meaning our data is within acceptable thresholds. Based on these analyses, the measurement model was assessed as suitable for structural modeling.

### 4.2. Structural model and hypothesis testing

Our next step was to specify and estimate the measurement model using structural equation modeling with PLS-SEM. The structural model was evaluated using predictive power ($R^2$), Stone-Geisser's $Q^2$, and the significance of path coefficients. Our proposed hypotheses were assessed using a bootstrapping procedure (with 500 subsamples) (Chin, 1998; Hair et al., 2012). In this study, 59 % of the variation in brand loyalty occurs because of all the exogenous latent variables in the model. Blindfolding processes were applied for the assessment of predictive relevance (Fornell & Bookstein, 1982; Hair et al., 2011), with results showing that all values are positive and greater than 0.

Our hypotheses were assessed using the combined dataset. The details concerning the structural path estimates and their significance are evidenced in Table 4. First, in accordance with H1, the hypothesized relationship shows that brand familiarity has a positive relationship with brand loyalty (β = 0.198, p = 0.000); therefore, this hypothesis is accepted. Second, for the hypothesized relationship in H2, customer support services have a positive and significant association with brand loyalty (β = 0.601, p = 0.000), so this hypothesis is also accepted. Third, the hypothesized relationship (H3) between product support services and brand loyalty is negative and non-significant (β = 0.042, p = 0.514); therefore this hypothesis is rejected. Finally, the hypothesized relationship (H4) between operational services and brand loyalty is negative and non-significant (β = − 0. 016, p = 0.809); therefore, this hypothesis

**Table 1**
Construct properties and checks.

| | Mean | SD | AVE | SKEW | Alpha | CR | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Brand familiarity** | 5.76 | 1.20 | 0.82 | −1.46 | 0.894 | 0.93 | **0.906** | | | | |
| **Brand loyalty** | 5.45 | 1.13 | 0.83 | -0.773 | 0.894 | 0.93 | 0.572 | **0.911** | | | |
| **Customer support services** | 5.06 | 1.33 | 0.62 | -0.679 | 0.847 | 0.89 | 0.566 | 0.747 | **0.787** | | |
| **Operational services** | 4.68 | 1.78 | 0.78 | -0.600 | 0.856 | 0.91 | 0.439 | 0.572 | 0.763 | **0.883** | |
| **Product support services** | 5.48 | 1.43 | 0.67 | −1.13 | 0.754 | 0.86 | 0.498 | 0.590 | 0.764 | 0.819 | **0.819** |

**Notes:** SD = standard deviation. AVE = average variance extracted. SKEW = skewness. CR = composite reliability. Alpha = Cronbach's α coefficient. The square root of the AVE value is shown in bold on the diagonal. Entries below the diagonal elements are the correlations between the construct's values.

**Table 3**
Heterotrait-Monotrait Ratio of Correlation.

|  | Brand familiarity | Brand loyalty | Customer support services | Operational services | Product support services |
|---|---|---|---|---|---|
| Brand familiarity | **0.845** |  |  |  |  |
| Brand loyalty | 0.572 | **0.808** |  |  |  |
| Customer support services | 0.566 | 0.747 | **0.791** |  |  |
| Operational services | 0.439 | 0.572 | 0.769 | **0.841** |  |
| Product support services | 0.498 | 0.590 | 0.764 | 0.819 | **0.817** |

**Table 4**
Direct Effects.

| Hypotheses | Path | Beta | SD | T value | P value | 2.50 % | 97.50 % | Decision |
|---|---|---|---|---|---|---|---|---|
| **H1** | **Brand familiarity -> Brand loyalty** | **0.198** | **0.056** | **3.525** | **0.000***** | **0.091** | **0.312** | **Supported** |
| **H2** | **Customer support services -> Brand loyalty** | **0.601** | **0.066** | **9.066** | **0.000***** | **0.467** | **0.720** | **Supported** |
| H3 | Product support services -> Brand loyalty | 0.042 | 0.064 | 0.653 | 0.514 | −0.083 | 0.170 | Unsupported |
| H4 | Operational Services -> Brand loyalty | 0.016 | 0.066 | 0.241 | 0.809 | −0.104 | 0.157 | Unsupported |

$P < 0.05$ *, $P < 0.01$ ** and $P < 0.001$***.

is also rejected. Thus, brand familiarity and, in particular, customer support services are the drivers of brand loyalty.

Given substantive interest in group effects in this study, multi-group SEM was used. This approach was taken because of having binary levels of service intensity (high vs. low) to uncover differences in how B2B customers perceive brand familiarity over services in creating brand loyalty. An assessment was therefore performed to see whether there were significant differences between the path coefficients using the Welch–Satterthwaite test (Welch, 1947), a parametric significance test for the difference of group-specific results that assumes unequal variances across groups. The results show that both customer support services and operational services have a significant path difference with brand loyalty in both high- and low-complexity products, while brand familiarity and product support services have an insignificant path difference with brand loyalty in both high- and low-complexity products. These effects are reported in Table 5.

These results show that there is no statistical difference between high and low service intensity in terms of the importance of brand familiarity, so H5a is not supported. Customer support services are a significant driver of brand loyalty for high service intensity ($\beta = 0.630$, $p = 0.000$) compared to low service intensity ($\beta = 0.187$, $p = 0.083$), and this supports H5b. There is no statistical difference between high and low service intensity in terms of product support services, so H5c is not supported. Group differences are apparent when considering the relationship between operational services and brand loyalty between high ($\beta = -0.041$, $p = 0.001$) and low ($\beta = 0.502$, $p = 0.000$) service intensity. Operational services are more important in the low service intensity category in creating brand loyalty, so H5d is not supported.

## 5. Discussion

This study investigates B2B customers' perceptions of what drives brand loyalty. Data were collected from two sectors in comparison with prior work; for example, Wang et al. (2018) (one sector) providing the opportunity to compare brand loyalty based on different levels of service intensity.

### 5.1. Theoretical contributions

The study makes three main contributions. First, it is one of the first studies to address branding in a service infusion context. Existing research shows that services can enable customer attachment to a product brand (Jang et al., 2021) and that a product brand with service dimensions can extend its service offerings (Dimitriu & Warlop, 2022). Conversely, our study envisages a more focal role for services, whereby they are a driver of brand loyalty in their own right. The study also confirms the importance of brand familiarity as a driver of brand loyalty (Aaker, 1996; Kent & Allen, 1994). Moreover, while prior research often finds that the impact of branding on buyer behavior in B2B contexts is modest (Zablah et al., 2010), through the positive relationship between brand familiarity and brand loyalty, we demonstrate the importance of creating and promoting memorable brands for B2B manufacturers.

Second, scant research has considered the relative importance of the elements that drive brand loyalty in a B2B context, such as services and brand familiarity (Glynn, 2012; Kittur & Chatterjee, 2021). Persson (2010), in an exploratory study, uses a small sample of buyers to consider a range of service and non-service drivers; however, his work does not attempt to assess the relative importance of these drivers. Our study makes this assessment and provides strong support for the importance of customer support services as a driver of brand loyalty,

**Table 5**
Group differences.

| Hypotheses | Path | Path coefficients (base model) | Path coefficients (high) | Path coefficients (low) | Path coefficients – diff | t-value | p-value |
|---|---|---|---|---|---|---|---|
| H5a | Brand familiarity -> Brand loyalty | 0.198 | 0.241 | 0.090 | 0.151 | 1.791 | 0.075 |
| **H5b** | **Customer support services -> Brand loyalty** | **0.601** | **0.630** | **0.187** | **0.443** | **2.866** | **0.005** |
| H5c | Product support services -> Brand loyalty | 0.042 | 0.017 | 0.126 | −0.109 | 0.755 | 0.451 |
| **H5d** | **Operational services -> Brand loyalty** | **0.016** | **−0.041** | **0.502** | **−0.543** | **4.419** | **0.000** |

followed by brand familiarity. Customer support services include being an easy company to do business with, being able to provide the demonstrable benefits of one's products, and assisting the customer by providing insight into the wider market (Partanen et al., 2017; Persson, 2010). The importance of brand familiarity demonstrates that it is crucial for customers to be able to gain knowledge and experience of the brand first-hand through product use and service interactions. Thus, while extant research suggests that promoting a single corporate brand is often most effective in building brand familiarity (Roper, 2016), customers' knowledge and direct experience of a brand develop during service interactions (Cassia et al., 2017). Thus, a manufacturer's marketing communications activities about its brand need to align with this service experience to create a "single voice.".

Third, this study answers calls for further research into B2B branding addressing different industries (Keränen et al., 2012). We use the notion of service intensity to distinguish two industries: paper/packaging (low service intensity) versus photocopying/printing (high service intensity). Our study demonstrates that there are two significant group differences. First, the results reveal that customer support services are the most important in creating brand loyalty for high–service intensity manufacturers, helping their customers to understand the suitability of their products and how they might fit in the wider market context (Parasuraman, 1998; Raddats et al., 2016). Second, the study indicates that operational services are the most important in creating brand loyalty for customers of low–service intensity manufacturers. Conversely, extant literature suggests that operational services will create greater brand loyalty for high service intensity manufacturers (Raddats & Kowalkowski, 2014). We interpret this result through the understanding that the manufacturer brand comes from both product and service drivers, and the latter needs to support the former, rather than a service being a replacement for a product. To explain this point, if all a customer is buying is an outcome, then what the product brand stands for becomes largely irrelevant. We do not see this situation in the photocopier/printer industry, and the product offering is a key part of a manufacturer's brand even if operational services are promoted as quasi-standalone offerings. Thus, in terms of H5d, we believe that customers interpret operational services in terms of the solutions that the paper/packaging manufacturer provides; for example, helping customers with managing quality control processes, stock levels, and product security. Thus, rather than a quasi-standalone "advanced" offering as set out in much of the literature (Baines & Lightfoot, 2014; Beverungen et al., 2020; Partanen et al., 2017), operational services are important additions to product offerings and help to create stronger brand loyalty.

### 5.2. Managerial implications

While considerable research addresses how B2B manufacturers should develop appropriate service offerings and customer relationships, less is known about how branding should be used in the context of manufacturers' services. This study suggests that B2B manufacturers should try to improve brand familiarity among customers and focus on certain service categories to develop brand loyalty. This entails not only promotional activities using traditional media (e.g., trade shows) and newer media (e.g., social media) but also approaches linked to service interactions to help customers experience the corporate brand and understand what it stands for.

The results from this study show that the clear driver of brand loyalty is a range of customer support services linked to the core product business, hence being an easy company to deal with by having short and guaranteed delivery lead times. Equally, taking the time to demonstrate new product ideas and setting them in the context of market and technological developments. These elements are particularly important for manufacturers with complex products, where customers seek help from their suppliers to reduce this complexity and minimize risks. For manufacturers with low-complexity products, providing customers with product/service solutions that address their operational challenges is

encouraged. These service offerings may not result in new revenue streams independent of those of product sales but can help to make the manufacturer a more valued supplier and therefore a stronger brand in the market.

### 5.3. Limitations and future research

We document limitations here together with ideas for future research. First, this study surveyed customers in two main industries that provide a contrast based on high versus low service intensity. While we believe that the study's results apply to other industries with similar characteristics, we do not claim that they are generalizable to all other industries. We, therefore, encourage researchers to use a similar survey instrument to assess the importance of service offerings and brand familiarity as drivers of brand loyalty in other manufacturing industries. Second, we used one focal manufacturer for the first study and multiple companies for the second. While it may have been optimal to use one manufacturer for the second study, this was not possible. To overcome this issue, we were careful to limit the respondents in the second study to five manufacturers, which had similar offerings conforming to our service categories. Moreover, statistical analysis of Sample 2 showed no major variations between brands, meaning that it was suitable to compare against Sample 1. In the future, it may be possible to find a single company to test the "high service intensity" condition.

Third, we did not use every service category that manufacturers offer and chose those that were most relevant for the companies/industries in our study. It is possible that choosing other service categories, for example, R&D services (Partanen et al., 2017), would have led to different results, and if studies are conducted in other industries, we suggest that researchers consider whether the service categories in our survey instrument are appropriate. Fourth, the study was cross-sectional, meaning that it provides a snapshot of the drivers of brand loyalty. Further longitudinal studies could study how brand loyalty changes in light of changing service offerings. Fifth, although this study was focused on brand familiarity and service categories in driving brand loyalty, other factors may also drive it, and further research could evaluate these dependencies. Indeed, deconstructing the drivers of brand loyalty is an underdeveloped research topic more generally, and this paper makes a start at addressing this agenda.

### 6. Conclusions

This study is one of the first to address branding in a service infusion context despite there having been a substantial number of papers about this and related topics, such as servitization, over the last decade. The study investigates B2B customer opinion about branding and service intensity aligned to three service categories (customer support, product support, operational). It was operationalized through access to samples from two distinct sectors, paper/packaging and photocopiers/printers, to test the moderating effect of service intensity. The study finds that brand familiarity and, in particular, customer support services are important drivers of brand loyalty. For high service intensity manufacturers, customer support services are a more important driver than for low service intensity manufacturers. In this case, the B2B brand is strongest when suppliers act as trusted advisors and guide their customers through market and technological changes. For low service intensity manufacturers, operational services are a more important driver of brand loyalty than for high service intensity manufacturers. In this case, operational services are conceived as product/service solutions, and thus, B2B brand loyalty is strongest when product and service offerings are not disaggregated, as may happen if operational services are promoted and delivered as quasi-standalone offerings.

**CRediT authorship contribution statement**

**Chris Raddats:** Writing – original draft. **Stuart Roper:**

Conceptualization, Methodology, Writing – review & editing. **Rachel Ashman:** Methodology, Formal analysis.

### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Data availability

The data that has been used is confidential.

## Appendix A

**Table A1**
Sample two frequencies.

| Firm | Frequency | Percentage |
|---|---|---|
| Xerox | 17 | 11.0 % |
| Epson | 25 | 16.1 % |
| HP | 71 | 45.8 % |
| Canon | 24 | 15.5 % |
| Samsung | 18 | 11.6 % |
| Total | 155 | 100 % |

**Table A2**
Descriptive statistics.

| | Sample one (173) | | Sample two (155) | |
|---|---|---|---|---|
| Question | Frequency | Percentage | Frequency | Percentage |
| Company Involvement | 95 | 55 | 97 | 63 |
| Sole Decision Maker | 38 | 22 | 9 | 6 |
| Main Decision Maker | 32 | 19 | 21 | 14 |
| Influencer | 2 | 1 | 25 | 14 |
| User | 6 | 3 | 3 | 3 |
| No answer | | | | |
| Standard Industrial Classification | 0 | 0 | 2 | 1 |
| Agriculture, Forestry and Fishing | 0 | 0 | 1 | 1 |
| Mining | 0 | 0 | 14 | 9 |
| Construction | 49 | 27 | 13 | 8 |
| Manufacturing | 5 | 3 | 6 | 4 |
| Transportation, Communications, | 20 | 12 | 16 | 10 |
| Wholesale Trade | 8 | 5 | 18 | 12 |
| Retail Trade | 45 | 26 | 25 | 16 |
| Finance, Insurance and Real Estate | 12 | 7 | 28 | 18 |
| Services (other) | 5 | 3 | 0 | 0 |
| Public Administration | 5 | 3 | 4 | 3 |
| Healthcare/medical | 24 | 14 | 28 | 18 |
| Education | | | | |
| Average yearly spend on focal products/services | 2 | 1 | 40 | 26 |
| Less than 1 k | 18 | 10 | 62 | 39 |
| £1-10 k | 39 | 23 | 29 | 19 |
| £10-25 k | 44 | 25 | 11 | 7 |
| £25-50 k | 39 | 23 | 9 | 6 |
| Over £50 k | 31 | 18 | 4 | 3 |
| Don't know or prefer not to say | | | | |
| Average yearly spend with focal company | 21 | 12 | 25 | 16 |
| Less than 10 % | 21 | 12 | 27 | 17 |
| 10–25 % | 25 | 14 | 22 | 14 |
| 25–50 % | 35 | 20 | 24 | 15 |
| 50–75 % | 53 | 31 | 53 | 35 |
| Over 75 % | 18 | 11 | 4 | 3 |
| Don't know or prefer not to say | | | | |
| Annual Turnover | 63 | 37 | 32 | 21 |
| Under £500,000 | 36 | 21 | 38 | 24 |
| £500,000 - £1 million | 30 | 17 | 26 | 17 |
| £1-5 million | 6 | 3 | 18 | 12 |
| £5-10 million | 13 | 8 | 37 | 23 |
| Over £10 million | 25 | 14 | 4 | 3 |
| Don't know/Prefer not to say | | | | |

**Table A3**

Item statistics by sample.

| Construct | Item | Source | Sample one Mean | SD | Sample two Mean | SD |
|---|---|---|---|---|---|---|
| *Brand familiarity* | I am familiar with the X brand (Famm1) | Kent and Allen (1994) | 5.71 | 1.206 | 6.39 | 0.908 |
| | I have experience of the X brand (Famm2) | | 5.66 | 1.322 | 6.34 | 1.009 |
| | I am knowledgeable about the X brand (Famm3) | | 5.26 | 1.341 | 5.82 | 1.090 |
| *Customer support services* | X is able to respond to short lead times (Cust1) | Partanen et al. (2017), Persson (2010) | 5.69 | 1.590 | 5.69 | 1.091 |
| | X guarantees to deliver by specified times (Cust2) | | 5.21 | 1.561 | 5.66 | 1.158 |
| | Doing business with X is straightforward (Cust3) | | 4.78 | 1.961 | 6.06 | 1.036 |
| | X offers product demonstrations (Cust4) | | 5.38 | 1.665 | 5.66 | 1.229 |
| | X provides communication on market trends/changes (Cust5) | | 4.29 | 1.573 | 5.66 | 1.197 |
| *Product support services* | X offers a warranty on its products (Supp1) | Partanen et al. (2017) | 3.72 | 2.393 | 6.41 | 0.951 |
| | X provides technical user training (Supp2) | | 3.54 | 2.214 | 5.63 | 1.117 |
| | X provides customer support (Supp3) | | 4.93 | 2.117 | 5.94 | 1.033 |
| *Operational services* | X provides project management services (Ope1) | Partanen et al. (2017) | 2.77 | 2.329 | 5.47 | 1.240 |
| | X provides services to help us operate our products (Ope2) | | 4.03 | 2.311 | 5.86 | 1.107 |
| | X offers services to help us operate our processes (Ope3) | | 3.77 | 2.409 | 5.73 | 1.118 |
| *Brand loyalty* | We will buy X's products next time we have a requirement (Bra1) | Wang et al. (2018) | 5.29 | 1.617 | 6.12 | 0.939 |
| | We will continue to buy from X in the future (Bra2) | | 5.66 | 1.436 | 6.25 | 0.937 |
| | We are committed to X (Bra3) | | 4.77 | 1.722 | 5.82 | 1.209 |

**Notes:** SD = standard deviation

**Table A4**

Correlation Matrix (sample one).

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) Famm1 | | 0.755** | 0.666** | 0.350** | 0.327** | 0.282** | 0.488** | 0.278** | 0.276** | 0.204** | 0.368** | 0.110 | 0.306** | 0.275** | 0.435** | 0.534** | 0.461** |
| (2) Famm2 | | | 0.614** | 0.313** | 0.339** | 0.234** | 0.407** | 0.293** | 0.202** | 0.156** | 0.351** | 0.020 | 0.178** | 0.217** | 0.354** | 0.470** | 0.345** |
| (3) Famm3 | | | | 0.387** | 0.376** | 0.371** | 0.424** | 0.356** | 0.260** | 0.177** | 0.234** | 0.142 | 0.294** | 0.288** | 0.394** | 0.432** | 0.456** |
| (4) Cust1 | | | | | 0.720** | 0.625** | 0.626** | 0.373** | 0.263** | 0.249** | 0.303** | 0.240** | 0.316** | 0.295** | 0.478** | 0.515** | 0.476** |
| (5) Cust2 | | | | | | 0.574** | 0.635** | 0.382** | 0.320** | 0.247** | 0.406** | 0.303** | 0.321** | 0.282** | 0.526** | 0.484** | 0.511** |
| (6) Cust 3 | | | | | | | 0.547** | 0.369** | 0.246** | 0.233** | 0.285** | 0.269** | 0.318** | 0.398** | 0.431** | 0.403** | 0.488** |
| (7) Cust 4 | | | | | | | | 0.362** | 0.259** | 0.238** | 0.370** | 0.231** | 0.333** | 0.314** | 0.618** | 0.723** | 0.677** |
| (8) Cust5 | | | | | | | | | 0.361** | 0.360** | 341** | 0.333** | 0.407** | 0.335** | 0.225** | 0.221** | 0.305** |
| (9) Prod1 | | | | | | | | | | 0.461** | 0.370** | 0.505** | 0.550** | 0.533** | 0.273** | 0.282** | 0.298** |
| (10) Prod2 | | | | | | | | | | | 0.461** | 0.524** | 0.649** | 0.500** | 0.208** | 0.147 | 0.205** |
| (11) Prod3 | | | | | | | | | | | | 0.420** | 0.487** | 0.415** | 0.388** | 0.331* | 0.324** |
| (12) Ope1 | | | | | | | | | | | | | 0.497** | 0.532** | 0.222** | 0.128 | 0.244** |
| (13) Ope2 | | | | | | | | | | | | | | 0.584** | 0.306** | 0.239** | 0.335** |
| (14) Ope3 | | | | | | | | | | | | | | | 0.287** | 0.259** | 0.345** |
| (15) Bra1 | | | | | | | | | | | | | | | | 0.741** | 0.765** |
| (16) Bra2 | | | | | | | | | | | | | | | | | 0.750** |
| (17) Bra3 | | | | | | | | | | | | | | | | | |

**Table A5**

Correlation Matrix (sample two).

| | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) Famm1 | 0.780** | 0.584** | 0.301** | 0.435** | 0.456** | 0.276** | 0.194** | 0.377** | 0.291** | 0.329** | 0.278** | 0.321** | 0.361** | 0.289** | 0.348** | 0.414** |
| (2) Famm2 | | 0.541** | 0.262** | 0.371** | 0.531** | 0.224** | 0.149 | 0.402** | 0.170* | 0.312** | 0.239** | 0.294** | 0.313** | 0.300** | 0.410** | 0.285** |
| (3) Famm3 | | | 0.335** | 0.394** | 0.390** | 0.347** | 0.302** | 0.253** | 0.393** | 0.377** | 0.342** | 0.296** | 0.375** | 0.382** | 0.375** | 0.419** |
| (4) Cust1 | | | | 0.652** | 0.489** | 0.494** | 0.537** | 0.297** | 0.396** | 0.497** | 0.555** | 0.496** | 0.554** | 0.454** | 0.439** | 0.529** |
| (5) Cust2 | | | | | 0.613** | 0.673** | 0.471** | 0.472** | 0.426** | 0.553** | 0.513** | 0.555** | 0.551** | 0.466* | 0.336** | 0.546** |
| (6) Cust3 | | | | | | 0.476** | 0.337** | 0.586** | 0.442** | 0.525** | 0.406** | 0.540** | 0.480** | 0.506** | 0.465** | 0.372** |
| (7) Cust4 | | | | | | | 0.457** | 0.345** | 0.600** | 0.511** | 0.480** | 0.552** | 0.434** | 0.422** | 0.226** | 0.348** |
| (8) Cust5 | | | | | | | | 0.166* | 0.330** | 0.436** | 0.628** | 0.503** | 0.509** | 0.410** | 0.331** | 0.497** |
| (9) Prod1 | | | | | | | | | 0.349** | 0.249** | 0.167* | 0.289** | 0.348** | 0.288** | 0.263** | 0.160* |
| (10) Prod2 | | | | | | | | | | 0.533** | 0.384** | 0.519** | 0.476** | 0.400** | 0.294** | 0.393** |
| (11) Prod3 | | | | | | | | | | | 0.599** | 0.628** | 0.531** | 0.489** | 0.458** | 0.407** |
| (12) Ope1 | | | | | | | | | | | | 0.522** | 0.495** | 0.404** | 0.423** | 0.564** |
| (13) Ope2 | | | | | | | | | | | | | 0.656** | 0.497** | 0.441** | 0.471** |
| (14) Ope3 | | | | | | | | | | | | | | 0.512** | 0.444** | 0.482** |
| (15) Bra1 | | | | | | | | | | | | | | | 0.616** | 0.539** |
| (16) Bra2 | | | | | | | | | | | | | | | | 0.557** |
| (17) Bra3 | | | | | | | | | | | | | | | | |

**Table A6**
ANOVA and Levene's test for homogeneity of variances for sample two.

| Construct | | Sum of squares | df | F | Sig. | Levene's Sig. |
|---|---|---|---|---|---|---|
| Brand familiarity | Between groups | 1.941 | 4 | 0.636 | 0.638 | 0.665 |
| | Within groups | 114.535 | 150 | | | |
| | Total | 116.476 | 154 | | | |
| Customer support services | Between groups | 6.691 | 4 | 2.141 | 0.079 | 0.179 |
| | Within groups | 117.197 | 150 | | | |
| | Total | 123.887 | 154 | | | |
| Product support services | Between groups | 1.526 | 4 | 0.598 | 0.665 | 0.746 |
| | Within groups | 95.690 | 150 | | | |
| | Total | 97.216 | 154 | | | |
| Operational services | Between groups | 8.037 | 4 | 2.208 | 0.071 | 0.111 |
| | Within groups | 136.461 | 150 | | | |
| | Total | 144.497 | 154 | | | |
| Brand loyalty | Between groups | 3.146 | 4 | 1.044 | 0.387 | 0.201 |
| | Within groups | 113.029 | 150 | | | |
| | Total | 116.175 | 154 | | | |

**Notes:** for ANOVA, significance (Sig.) threshold for group differences is P = >0.05. The label 'Levene's Sig.) relates to the significance values for Levene's test for homogeneity of variance.

**Table A7**
One-way ANOVA for sample one (by turnover).

| Construct | | Sum of squares | df | F | Sig. | Levene's Sig. |
|---|---|---|---|---|---|---|
| Brand familiarity | Between groups | 1.136 | 2 | 0.433 | 0.649 | 0.668 |
| | Within groups | 223.122 | 170 | | | |
| | Total | 224.258 | 172 | | | |
| Customer support services | Between groups | 4.821 | 2 | 1.498 | 0.227 | 0.929 |
| | Within groups | 273.625 | 170 | | | |
| | Total | 278.445 | 172 | | | |
| Product support services | Between groups | 6.292 | 2 | 1.009 | 0.367 | 0.380 |
| | Within groups | 530.076 | 170 | | | |
| | Total | 536.369 | 172 | | | |
| Operational services | Between groups | 11.520 | 2 | 1.517 | 0.222 | 0.223 |
| | Within groups | 645.629 | 170 | | | |
| | Total | 657.150 | 172 | | | |
| Brand loyalty | Between groups | 9.744 | 2 | 2.338 | 0.100 | 0.354 |
| | Within groups | 354.282 | 170 | | | |
| | Total | 365.026 | 172 | | | |

**Notes:** for ANOVA, significance (Sig.) threshold for group differences is P = >0.05. The label 'Levene's Sig.' relates to the significance values for Levene's test for homogeneity of variance.

**Table A8**
One-way ANOVA sample two (by turnover).

| Construct | | Sum of squares | df | F | Sig. | Levene's Sig. |
|---|---|---|---|---|---|---|
| Brand familiarity | Between groups | 0.765 | 1 | 0.997 | 0.320 | 0.133 |
| | Within groups | 117.319 | 153 | | | |
| | Total | 118.083 | 154 | | | |
| Customer support services | Between groups | 3.006 | 1 | 3.548 | 0.062 | 0.050 |
| | Within groups | 129.624 | 153 | | | |
| | Total | 132.630 | 154 | | | |
| Product support services | Between groups | 0.769 | 1 | 1.100 | 0.296 | 0.583 |
| | Within groups | 107.715 | 153 | | | |
| | Total | 108.484 | 154 | | | |
| Operational services | Between groups | 3.673 | 1 | 3.871 | 0.051 | 0.887 |
| | Within groups | 144.210 | 153 | | | |
| | Total | 147.882 | 154 | | | |
| Brand loyalty | Between groups | 1.473 | 1 | 1.771 | 0.185 | 0.645 |
| | Within groups | 127.275 | 153 | | | |
| | Total | 128.748 | 154 | | | |

**Notes:** for ANOVA, significance (Sig.) threshold for group differences is P = >0.05. The label 'Levene's Sig.' relates to the significance values for Levene's test for homogeneity of variance.

## References

Aaker, D. A. (1996). Measuring brand equity across products and markets. *California Management Review, 38*(3), 102–120.

Aaker, D. A. (2012). *Building Strong Brands*. Simon and Schuster.

Baines, T., Lightfoot, H., Benedettini, O., & Kay, J. (2009). The servitization of manufacturing. *A review of literature and reflection on future challenges, Journal of Manufacturing Technology, 20*(5), 547–567.

Baines, T., & Lightfoot, H. (2014). Servitization of the manufacturing firm. Exploring the operations practices and technologies that deliver advanced services. *International Journal of Operations & Production Management, 34*(1), 2–35.

Bendixen, M., Bukasa, K. A., & Abratt, R. (2004). Brand equity in the business-to-business market. *Industrial Marketing Management, 33*(5), 371–380.

Bennett, R., Härtel, C. E., & McColl-Kennedy, J. R. (2005). Experience as a moderator of involvement and satisfaction on brand loyalty in a business-to-business setting. *Industrial Marketing Management, 34*(1), 97–107.

Beverland, M. (2018). *Brand Management: Co-creating Meaningful Brands*. London: Sage.

Beverungen, D., Kundisch, D., & Wünderlich, N. (2020). Transforming into a platform provider: Strategic options for industrial smart service providers. *Journal of Service Management, 32*(4), 507–532.

Biedenbach, G., & Marell, A. (2010). The impact of customer experience on brand equity in a business-to-business services setting. *Journal of Brand Management, 17*, 446–458.

Blombäck, A., & Axelsson, B. (2007). The role of corporate brand image in the selection of new subcontractors. *Journal of Business & Industrial Marketing, 22*(6), 418–430.

Brax, S. (2005). A manufacturer becoming service provider–challenges and a paradox. *Managing Service Quality, 15*, 142–155.

Brax, S. A., & Jonsson, K. (2009). Developing integrated solution offerings for remote diagnostics: A comparative case study of two manufacturers. *International Journal of Operations & Production Management, 29*(5), 539–560.

Brown, B. P., Bellenger, D. N., & Johnston, W. J. (2007). The implications of business-to-business and consumer market differences for B2B branding strategy. *Journal of Business Market Management, 1*(3), 209–230.

Brown, B., Sichtmann, C., & Musante, M. (2011). A model of product-to-service brand extension success factors in B2B buying contexts. *Journal of Business & Industrial Marketing, 26*(3), 202–210.

Brown, B., Zablah, A. R., Bellenger, D. N., & Johnston, W. J. (2011). When do B2B brands influence the decision making of organizational buyers? An examination of the relationship between purchase risk and brand sensitivity. *International Journal of Research in Marketing, 28*(3), 194–204.

Cassia, F., Cobelli, N., & Ugolini, M. (2017). The effects of goods-related and service-related B2B brand images on customer loyalty. *Journal of Business & Industrial Marketing, 32*(5), 722–732.

Cheffi, W., Zahir-ul-Hassan, M. K., Farooq, M. O., Baqrain, A., & Mansour, M. M. H. (2023). Ethical leadership, management control systems and circular economy in SMEs in an emerging economy, the UAE. *Journal of Business Research, 156*, Article 113513.

Chin, W. W. (1998). The partial least squares approach to structural equation modelling. *Modern Methods for Business Research, 295*(2), 295–336.

Dachs, B., Biege, S., Borowiecki, M., Lay, G., Jäger, A., & Schartinger, D. (2014). Servitisation in European manufacturing industries: Empirical evidence from a large-scale database. *The Service Industries Journal, 34*(1), 5–23.

Dall'Olmo Riley, F. (2016). Brand definitions and conceptualizations: The debate, in Dall'Olmo-Riley, F., Sing, J. & Blankson, C. (Eds.), *The Routledge Companion to Contemporary Brand Management*, Routledge, 3-12.

Davies, A., Brady, T., Prencipe, A., & Hobday, M. (2011). Innovation in complex products and systems: Implications for project-based organizing, in Cattani, G. (Ed.), *Project-based organizing and strategic management (Advances in Strategic Management)*, 28, 3-26.

Davis, D., Golicic, S., & Marquardt, A. (2009). Managing business-to business service brands. In M. S. Glynn, & A. G. Woodside (Eds.), *Business-to-Business Brand Management*. Emerald Group Publishing.

Dimitriu, R., & Warlop, L. (2022). Is similarity a constraint for service-to-service brand extensions? *International Journal of Research in Marketing, 39*(4), 1019–1041.

East, R. (1997). *Consumer Behavior*. Sydney: Prentice Hall.

Elsäßer, M., & Wirtz, B. W. (2017). Rational and emotional factors of customer satisfaction and brand loyalty in a business-to-business setting. *Journal of Business & Industrial Marketing, 32*(1), 138–152.

Fill, C., & Fill, K. E. (2005). *Business to Business Marketing: Relationships*. Pearson, Harlow: Systems and Communications.

Fischer, T., Gebauer, H., & Fleisch, R. (2012). *Service Business Development: Strategies for Value Creation in Manufacturing Firms*. Cambridge: Cambridge University Press.

Fornell, C., & Larcker, F. (1981). *Structural equation models with unobservable variables and measurement error* (pp. 382–388). Algebra and Statistics.

Fornell, C., & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research, 19*(4), 440–452.

Frohlich, M., & Dixon, R. (2001). A taxonomy of manufacturing strategies revisited. *Journal of Operations Management, 19*(5), 541–558.

Gebauer, H. (2008). Identifying service strategies in product manufacturing companies by exploring environment–strategy configurations. *Industrial Marketing Management, 37*(3), 278–291.

Glynn, M. S. (2012). Primer in B2B brand-building strategies with a reader practicum. *Journal of Business Research, 65*(5), 666–675.

Gomes, M., Fernandes, T., & Brandão, A. (2016). Determinants of brand relevance in a B2B service purchasing context. *Journal of Business & Industrial Marketing, 31*(2), 193–204.

Gomes, E., Lehman, D. W., Vendrell-Herrero, F., & Bustinza, O. F. (2021). A history-based framework of servitization and deservitization. *International Journal of Operations & Production Management, 41*(5), 723–745.

Goodyear, M. (1993). Reviewing the concept of brands and branding. *Marketing and Research Today, May*, 75–79.

Graham, J. L., & Mudambi, S. M. (2016). Looking at the future of B2B branding. In *The Routledge Companion to Contemporary Brand Management* (pp. 271–279). Routledge.

Grönroos, C., & Helle, P. (2010). Adopting a service logic in manufacturing: Conceptual foundation and metrics for mutual value creation. *Journal of Service Management, 21*(5), 564 559.

Guenther, M., & Guenther, P. (2019). The value of branding for B2B service firms - The shareholders' perspective. *Industrial Marketing Management, 78*, 88–101.

Hair, J. F., Hult, G., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: A comparative evaluation of composite-based structural equation modeling methods. *Journal of the Academy of Marketing Science, 45*(5), 616–632.

Hair, J. F., Hult, G., Tomas, M., Ringle, C., & Sarstedt, M. (2016). A primer on partial least squares structural equation modeling (PLS-SEM). *Sage*. Publications.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2012). Partial least squares: The better approach to structural equation modelling? *Long Range Planning, 45*(5–6), 312–319.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice, 19*(2), 139–152.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24.

Hakanen, T., Helander, N., & Valkokari, K. (2017). Servitization in global business-to-business distribution: The central activities of manufacturers. *Industrial Marketing Management, 63*, 167–178.

Henseler, J., Hubona, G., & Ray, P. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management & Data Systems, 116*(1), 2–20.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115–135.

Herbst, U., & Merz, M. A. (2011). The industrial brand personality scale: Building strong business-to-business brands. *Industrial Marketing Management, 40*(7), 1072–1081.

Homburg, C., Klarmann, M., & Schmitt, J. (2010). Brand awareness in business markets: When is it related to firm performance? *International Journal of Research in Marketing, 27*(3), 201–212.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal, 20*(2), 195–204.

Hulland, J., Baumgartner, H., & Smith, K. M. (2018). Marketing survey research best practices: Evidence and recommendations from a review of JAMS articles. *Journal of the Academy of Marketing Science, 46*(1), 92–108.

Hutton, J. G. (1997). A study of brand equity in an organizational-buying context. *Journal of Product & Brand Management, 6*(6), 428–439.

Interbrand Best Global Brands https://interbrand.com/best-brands/ 2022 available at: accessed 25/5/23.

Jacoby, J., & Chestnut, R. W. (1978). *Brand loyalty: Measurement and management*. Chichester, New York: Wiley.

Jalkala, A. M., & Keränen, J. (2014). Brand positioning strategies for industrial firms providing customer solutions. *Journal of Business & Industrial Marketing, 29*(3), 253–264.

Jang, K. K., Bae, J., & Kim, K. H. (2021). Servitization experience measurement and the effect of servitization experience on brand resonance and customer retention. *Journal of Business Research, 130*, 384–397.

M. Jefferson Sage CMO: B2B businesses 'underestimate the power of brand', Marketing Week https://www.marketingweek.com/sage-cmo-b2b-power-brand/ 2022 available at: Accessed 11/6/22.

Juga, J., Juntunen, J., & Paananen, M. (2018). Impact of value-adding services on quality, loyalty and brand equity in the brewing industry. *International Journal of Quality and Service Sciences, 10*(1), 61–67.

Kapferer, J. N. (2012). *The New Strategic Brand Management: Advanced Insights & Strategic Thinking* (5th ed.). London: Kogan Page.

Keller, K. L. (1993). Conceptualizing, measuring and managing customer-based brand equity. *Journal of Marketing, 57*, 1–22.

Keller, K. L., & Kotler, P. (2022). Branding in B2B firms. In G. Lilien, A. Petersen, & S. Wuyts (Eds.), *Handbook of Business-to-Business Marketing*. Edward Elgar Publishing.

Kent, R., & Allen, C. (1994). Competitive interference effects in consumer memory for advertising: The role of brand familiarity. *Journal of Marketing, 58*(3), 97–105.

Keränen, J., Piirainen, K. A., & Salminen, R. T. (2012). Systematic review on B2B branding: Research issues and avenues for future research. *Journal of Product & Brand Management, 21*(6), 404–417.

Kim, J., Reid, D. A., Plank, R. E., & Dahlstrom, R. (1999). Examining the role of brand equity in business markets: A model, research propositions, and managerial implications. *Journal of Business-to-Business Marketing, 5*(3), 65–89.

Kittur, P., & Chatterjee, S. (2021). Goods and services related brand image and B2B customer loyalty: Effects of construal level. *Journal of Business & Industrial Marketing, 36*(1), 17–30.

Koh, J., Kim, Y. G., & Kim, Y. (2003). Sense of virtual community: A conceptual framework and empirical validation. *International Journal of Electronic Commerce, 8*(2), 75–94.

Koll, O., & von Wallpach, S. (2009). One brand perception? Or many? *The heterogeneity of intra-brand knowledge, Journal of Product and Brand Management, 18*(5), 338–345.

Korkeamäki, L., & Kohtamäki, M. (2020). To outcomes and beyond: Discursively managing legitimacy struggles in outcome business models. *Industrial Marketing Management, 91*, 196–208.

Kuhn, K. A. L., Alpert, F., & Pope, N. K. L. (2008). An application of Keller's brand equity model in a B2B context. *Qualitative Market Research: An International Journal, 11*(1), 40–58.

Lay, G., Copani, G., Jäger, A., & Biege, S. (2010). The Relevance of Service in European Manufacturing Industries. *Journal of Service Management, 21*, 715–726.

Leek, S., & Christodoulides, G. (2011). A literature review and future agenda for B2B branding: Challenges of branding in a B2B context. *Industrial Marketing Management, 40*(6), 830–837.

Leek, S., & Christodoulides, G. (2012). A framework of brand value in B2B markets: The contributing role of functional and emotional components. *Industrial Marketing Management, 41*(1), 106–114.

Lichtenthal, J. D., & Long, M. M. (1998). Case study: Service support and capital goods-dissolving the resistance to obtaining product acceptance in new business markets. *Journal of Business & Industrial Marketing, 13*(4/5), 356–369.

Lim, W. M., & Guzmán, F. (2022). How does promotion mix affect brand equity? Insights from a mixed-methods study of low involvement products. *Journal of Business Research, 141*, 175–190.

Martin, P. C. G., Schroeder, A., & Ziaee Bigdeli, A. (2019). The value architecture of servitization: Expanding the research scope. *Journal of Business Research, 104*, 438–449.

Mathieu, V. (2001). Service strategies within the manufacturing sector: Benefits, costs and partnership. *International Journal of Service Industry Management, 12*(5), 451–475.

McQuiston, D. H. (2004). Successful branding of a commodity product: The case of RAEX LASER steel. *Industrial Marketing Management, 33*, 345–354.

Momeni, K., & Martinsuo, M. (2018). Remote monitoring in industrial services: Need-to-have instead of nice-to-have. *Journal of Business & Industrial Marketing, 33*(6), 792–803.

Mudambi, S. (2002). Branding importance in business-to-business markets: Three buyer clusters. *Industrial Marketing Management, 31*(6), 525–533.

Mudambi, S. M., Doyle, P., & Wong, V. (1997). An exploration of branding in industrial markets. *Industrial Marketing Management, 26*(5), 433–446.

Nenonen, S., Ahvenniemi, O., & Martinsuo, M. (2014). Image risks of servitization in collaborative service deliveries. *The Service Industries Journal, 34*(16), 1307–1329.

Neu, W. A., & Brown, S. W. (2005). Forming successful business-to-business services in goods-dominant firms. *Journal of Service Research, 8*(1), 3–17.

Oliva, R., & Kallenberg, R. (2003). Managing the Transition from Products to Services. *International Journal of Service Industry Management, 14*, 160–172.

Opazo-Basáez, M., Vendrell-Herrero, F., & Bustinza, O. F. (2022). Digital service innovation: A paradigm shift in technological innovation. *Journal of Service Management, 33*(1), 97–120.

Parasuraman, A. (1998). Customer research in business-to-business markets: An agenda for research. *Journal of Business & Industrial Marketing, 13*(4/5), 309–321.

Partanen, J., Kohtamäki, M., Parida, V., & Wincent, J. (2017). Developing and validating a multi-dimensional scale for operationalizing industrial service offering. *Journal of Business & Industrial Marketing, 32*(2), 295–309.

Patel, P. C., Pearce, J. A., & Guedes, M. J. (2019). The survival benefits of service intensity for new manufacturing ventures: A resource-advantage theory perspective. *Journal of Service Research, 22*(4), 352–370.

Persson, N. (2010). An exploratory investigation of the elements of B2B brand image and its relationship to price premium. *Industrial Marketing Management, 39*(8), 1269–1277.

Peter, J. P., Olson, J. C., & Grunert, K. G. (1999). *Consumer behavior and marketing strategy*. McGraw Hill Higher Education.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879.

Raddats, C., Baines, T., Burton, J., Story, V., & Zolkiewski, J. (2016). Motivations for servitization: The impact of product complexity. *International Journal of Operations & Production Management, 36*(5), 572–591.

Raddats, C., & Easingwood, C. (2010). Services growth options for B2B product-centric businesses. *Industrial Marketing Management, 39*(8), 1334–1345.

Raddats, C., & Kowalkowski, C. (2014). A reconceptualization of manufacturers' service strategies. *Journal of Business-to-Business Marketing, 21*(1), 19–34.

Raddats, C., Kowalkowski, C., Benedettini, O., Burton, J., & Gebauer, H. (2019). Servitization: A contemporary thematic review of four major research streams. *Industrial Marketing Management, 83*, 207–223.

Ren, Y., & Yeo, K. (2006). Research challenges on complex product systems (CoPS) innovation. *Journal of the Chinese Institute of Industrial Engineers, 23*(6), 519–529.

Ringle, C., Da Silva, D., & Bido, D. (2015). Structural equation modeling with the SmartPLS. *Brazilian Journal of Marketing, 13*(2), 56–73.

Roberts, J. H., Kayande, U., & Stremersch, S. (2014). From academic research to marketing practice: Some further thoughts. *International Journal of Research in Marketing, 31*(2), 144–146.

Roper, S., & Davies, G. (2010). Business to business branding: External and internal satisfiers and the role of training quality. *European Journal of Marketing, 44*(5), 567–590.

Roper, S., & Fill, C. (2012). *Corporate Brand and Reputation*. Harlow: Pearson Publications.

S. Roper Branding the entire entity: Corporate Branding, in *The Routledge Companion to Contemporary Brand Management*. F. Dall'Olmo-Riley J. Sing C. Blankson The Routledge Companion to Contemporary Brand Management 2016 Routledge 354 365.

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students* (Seventh Ed.). New York: Pearson Education.

Saunders, J. A., & Watt, F. A. W. (1979). Do brand names differentiate identical industrial products? *Industrial Marketing Management, 8*(2), 114–123.

Schaarschmidt, M., Walsh, G., & Evanschitzky, H. (2018). Customer interaction and innovation in hybrid offerings: Investigating moderation and mediation effects for goods and services innovation. *Journal of Service Research, 21*(1), 119–134.

Seyedghorban, Z., Matanda, M. J., & LaPlaca, P. (2016). Advancing theory and knowledge in the business-to-business branding literature. *Journal of Business Research, 69*(8), 2664–2677.

Shankar, V., Berry, L. L., & Dotzel, T. (2009). A practical guide to combining products and services. *Harvard Business Review, 87*(11), 94–99.

Spohrer, J. (2017). IBM's service journey: A summary sketch. *Industrial Marketing Management, 60*, 167–172.

Tuli, K. R., Kohli, A. K., & Bharadwaj, S. G. (2007). Rethinking customer solutions: From product bundles to relational processes. *Journal of Marketing, 71*(3), 1–17.

Van der Borgh, M., Nijssen, E. J., & Schepers, J. J. (2023). Unleash the power of the installed base: Identifying cross-selling opportunities from solution offerings. *Industrial Marketing Management, 108*, 122–133.

Vendrell-Herrero, F., Vaillant, Y., Bustinza, O. F., & Lafuente, E. (2022). Product lifespan: The missing link in servitization. *Production Planning & Control, 33*(14), 1372–1388.

Wang, Y. J., Capon, N., Wang, V. L., & Guo, C. (2018). Building industrial brand equity on resource advantage. *Industrial Marketing Management, 72*, 4–16.

Welch, B. L. (1947). The generalization of 'students' problems when several different population variances are involved. *Biometrika, 34*(1–2), 28–35.

Wirtz, J., & Kowalkowski, C. (2023). Putting the "service" into B2B marketing: Key developments in service research and their relevance for B2B. *Journal of Business & Industrial Marketing, 38*(2), 272–289.

Wise, R., & Zednickova, J. (2009). The rise and rise of the B2B brand. *Journal of Business Strategy, 30*(1), 4–13.

Wouters, J. (2004). Customer service strategy options: A multiple case study in a B2B setting. *Industrial Marketing Management, 33*(7), 583–592.

Zablah, A. R., Brown, B. P., & Donthu, N. (2010). The relative importance of brands in modified rebuy purchase situations. *International Journal of Research in Marketing, 27*(3), 248–260.

Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research, 12*(3), 341–352.

**Chris Raddats** is a Reader in Marketing at the University of Liverpool, UK. His work addresses B2B markets, primary how traditionally product-centric B2B businesses can build a chargeable services capability to enhance market differentiation and sales (servitization). He also writes about other aspects of B2B marketing, such as branding, customer experiences, innovation and social media. He publishes his work in leading marketing (e. g., *Industrial Marketing Management*), operations (e.g., *International Journal of Operational & Production Management*) and general management (e.g., *Journal of Business Research*) journals.

**Stuart Roper** is Professor of Marketing and Deputy Head of the Department of the Department of Marketing, Operations and Systems at Newcastle Business School, Northumbria University, UK. He has published extensively on brands, branding and corporate reputation. His work considers both the positive and negative impact of brands on consumers and society and has been published in the *Journal of Business Research, Psychology and Marketing, California Management Review, Social and Cultural Geography, European Management Review, British Education Research Journal, European Journal of Marketing, International Journal of Electronic Commerce, Journal of Marketing Management & Qualitative Market Research* amongst others.

**Rachel Ashman** is a Senior Lecturer in Marketing at the University of Liverpool, UK. Her research interests lie at the interface between digital modes of communication and consumers, specifically looking at contexts such as food and entrepreneurship. Her work has been published in the *Journal of Consumer Research, Journal of Business Research, British Journal of Management* among others.