



B2B service brand identity: Scale development and validation

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ABSTRACT

Several brand identity frameworks have been published in the B2C and the B2B brand marketing literature. A reliable, valid and parsimonious service brand identity scale that empirically establishes the construct's dimensionality in a B2B market has yet to be developed. This paper reports the findings of a study conducted amongst 421 senior executives working in the UK IT Service sector to develop and validate a B2B Service Brand Identity Scale. Following established scale development procedures support is provided for a B2B Service Brand Identity Scale comprising five dimensions; employee and client focus, visual identity, brand personality, consistent communications and human resource initiatives. Concluding remarks discuss theoretical and managerial implications with limitations and directions for future research.

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1. Introduction

Since the early 1990s brand identity has been the subject of increased academic interest (Aaker, 1991, 1996; Aaker & Joachimsthaler, 2000; Alsem & Kosteljik, 2008; Beverland, Napoli, & Lindgreen, 2007; Beverland, Napoli, & Yakimova, 2007; de Chernatony, 1999; de Chernatony, McDonald, & Wallace, 2010; Kapferer, 1997, 2004; Keller, 1998, 2003; Madhavaram, Badrinarayanan, & McDonald, 2005). Organizations that present a cohesive, distinctive and relevant brand identity can create preference in the market place, add value to their offer and command premium prices (Bendixen, Bukasa, & Abratt, 2004; Bengtsson & Servais, 2005; Ohnemus, 2009; Schmitt & Simonson, 1997). Building brand identity also fosters trust, facilitates differentiation (Ghodeswar, 2008) and helps customers' identification with the brand (Baumgarth & Schmidt, 2010). More broadly, developing a B2B brand has a positive affect on perceived quality (Cretu & Brodie, 2007), helps build customer loyalty (Persson, 2010) increases company power in the distribution network (Ohnemus, 2009), drives sales volume and revenue (Glynn, 2010) whilst adding to balance sheet value in the event of sale (Low & Blois, 2002). Consequently, research providing brand identity management insight has the potential to be of considerable academic and managerial interest.

Although several brand identity frameworks have been published in the B2C literature (Aaker, 1996; Aaker & Joachimsthaler, 2000; de Chernatony et al., 2010; Kapferer, 2004) only a small number of studies have considered brand identity in a B2B context (Beverland, Napoli, & Lindgreen, 2007; Beverland, Napoli, & Yakimova, 2007). The development and validation of B2B related frameworks is of particular note given the unique characteristics of B2B markets.

Such characteristics include multifaceted supply chain relationships (Bengtsson & Servais, 2005; Campbell, Papania, Parent, & Cyr, 2010; Gadde & Hakansson, 2008; Glynn, 2010; Lee, Lin, Lee, & Lee, 2010; Lindgreen, Beverland, & Farrelly, 2010), a complex selling process to a decision making unit (Bendixen et al., 2004; de Chernatony et al., 2010; Lynch & de Chernatony, 2004), highly customized solutions (Baumgarth, 2010), a smaller number of more powerful clients (Beverland, Napoli, & Lindgreen, 2007), high value transactions (Campbell et al., 2010) and the predominance of personal selling (Beverland, Napoli, & Lindgreen, 2007; Deeter-Schmelz & Kennedy, 2004; Lynch & de Chernatony, 2007) which places a greater emphasis on managing the human resource which implement the brand strategy (Baumgarth, 2010; Baumgarth & Schmidt, 2010).

This research contributes to the dearth of empirical research on brand identity in a B2B service context by developing a valid, reliable and parsimonious B2B service brand identity scale. The scale provides a psychometrically sound way to measure and reveal the construct's dimensionality. To date, the nascent B2B brand identity literature has been conceptually orientated (Beverland, Napoli, & Lindgreen, 2007; Beverland, Napoli, & Yakimova, 2007) and so our inquiry intends to address this gap given it is empirically informed.

The paper opens by reviewing the conceptualization and dimensionality of brand identity with the latter providing the basis for

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exploring the content domain of B2B service brand identity. It then explains the methodology followed to collect data through a postal survey and the analysis procedures to establish the psychometric properties of the scale. Concluding remarks highlight theoretical contributions, managerial implications and limitations with avenues for further research also being suggested.

2. Literature review on brand identity

Several frameworks that conceptualize brand identity have been published. These appear to have been developed predominantly with B2C brands in mind (Table 1).

Aaker (1996) advances the Brand Identity Planning System comprising product, the organization, a person and a symbol perspectives whilst Aaker and Joachimsthaler's (2000) Brand Leadership Model augments Aaker's (1996) work via the inclusion of 'brand essence' and 'elaboration of brand identity'. Building on earlier work (de Chernatony, 1999), de Chernatony (2006) regards vision, culture, positioning, personality, relationships and presentation as components of brand identity whilst Kapferer's (2004) Hexagonal Identity Prism model conceptualizes brand identity via facets of personality, culture, self image, reflection, relationship and physique.

Although these frameworks have been widely referenced in the academic literature they have not been subject to empirical investigation. From a scale development perspective, the current frameworks are problematic. It is unclear how some dimensions e.g. 'product' or 'organisation' (Aaker, 1996) could be scaled given they are so broadly conceived. It is also debatable if some dimensions such as 'elaboration of brand identity' (Aaker & Joachimsthaler, 2000) or 'presentation' (de Chernatony, 2006) are activities or constructs with the former being unsuitable for scaling. The logic underpinning some frameworks is also open to discussion. Kapferer (2004) considers self image and reflection facets of brand identity. These consumer based constructs appear to be at odds with the consensus of opinion that brand identity is an 'input' (cf. de Chernatony, 2006). These scholars' frameworks appear to have been generically developed. Whilst de Chernatony (2006) and Aaker's (1996) work may have some service brand applicability as they account for internal stakeholders and the organization/symbol respectively these frameworks, in their entirety, do not account for the distinctive challenges service branding brings. This specifically relates to the pivotal role employees play for service brands. It is also unclear how applicable these frameworks are in B2B markets which also present unique marketing challenges (Malhotra, 2005).

Embryonic brand identity research is starting to emerge within the B2B literature. Beverland, Napoli, and Lindgreen (2007) draw on Aaker and Joachimsthaler's (2000) Global Brand Leadership Framework to postulate an Industrial Global Brand Leadership Framework which is intermittently referred to as 'brand identity'. These scholars contest brand identity is built around five capabilities. These are relational support, coordinating network players, leveraging brand

architecture, adding value and quantifying the intangible. Brand identity was regarded in this study as "the key words or phrases that sum up the core values of the brand" (p. 1086). Equating brand identity with words or phrases simplifies the construct's complexity and detracts from its rich and multidimensional nature. In another study, Beverland, Napoli, and Yakimova (2007) identify key attributes business marketers can use to build a strong brand identity. These attributes include product, services, logistics, adaptation and advice which are referred to as the "basis" (p. 395), "forms" (p. 397) or "pillars" (p. 397) of brand identity. Arguably such an approach confuses brand identity building and brand positioning which the branding literature regards as distinct but related constructs where the former influences the latter (cf. Kapferer, 2004). Instead, Beverland, Napoli, and Yakimova (2007) do not appear to consider brand identity (the means) per se but the positioning (the ends) of brands around product benefits, levels of service, logistics or by being adaptive and providing advice.

2.1. Defining B2B service brand identity

Drawing on the corporate identity work of Hatch and Schultz (2000), de Chernatony (2006), considers brand identity as "the distinctive or central idea of a brand and how the brand communicates this idea to its stakeholders" (p. 45). In what could be considered a somewhat abstract definition, Kapferer (2004) defines brand identity as "specifying the facets of the brands' uniqueness and value" (p. 95) whilst Aaker (1996) regards brand identity as "...what the organisation wants the brand to stand for in the customer's mind" (p. 25) or more simply put "how strategists want the brand to be perceived" (p. 71). Aaker's (1996) work raises several points. First, brand identity emanates from the 'organization'. It is not a consumer or client side construct. Second, within the organization, the "strategist" plays a pivotal brand identity role. Third, brand identity is visionary in nature. Considering the construct as visionary is consistent with both de Chernatony (2006) and Aaker and Joachimsthaler (2000). The latter researchers regard brand identity as the "vision of how that brand should be perceived by its target audience" (p. 27). However, several issues materialize from Aaker and Joachimsthaler's (2000) definition. For example, these authors refer to a "vision" but do not elaborate on whose vision this actually is. This is a benefit of Aaker's (1996) work insofar the vision lies with the "strategist". Furthermore, it may be more appropriate to define brand identity in the context of stakeholders and not an audience. Broadening the scope of the construct's definition in this way overcomes a limitation of Aaker's (1996) work which appears to be customer centric.

Aaker (1996) and Aaker and Joachimsthaler's (2000) work was considered particularly useful in terms of specifying brand identity due to the clear, concise and unambiguous way the construct has been defined. This helps specify the 'domain' of the construct (Churchill, 1979) and so lay the foundation for subsequent scaling (Netemeyer, Bearden, & Sharma, 2003). Furthermore, Aaker's (1996) work provides some sampling frame guidance in the form of the brand "strategist" i.e. a senior marketer. Consequently, guided by this rationale we define B2B service brand identity as *the strategist's vision of how a B2B service brand should be perceived by its stakeholders*. The next section explores the domain of the B2B service brand identity construct within the parameters of the aforementioned definition.

2.2. The domain of B2B service brand identity

Based on the literature review B2B service brand identity is a multidimensional construct and its facets in a B2B service context are:

2.2.1. Marketing culture

Several brand identity scholars have noted the important role 'culture' plays in building brand identity (Aaker, 1996; Aaker & Joachimsthaler, 2000; de Chernatony et al., 2010; Kapferer, 2004). However, culture

Table 1
Current dimensions of brand identity.

Dimension of identity	Kapferer (2004)	Aaker (1996) Joachimsthaler (2000)	de Chernatony (2006)
Physique	✓	✓ (product?)	
Relationships	✓		✓
Vision		✓	✓
Reflection (external)	✓		
Personality	✓	✓	✓ (emotional aspects)
Culture	✓		✓ (& vision)
Self image (internal)	✓		
Organization		✓	
Symbol		✓	
Positioning			✓ (functional aspects)
Presentation			✓

refers to a category of constructs and not a construct with the former being unsuitable for scaling procedures (DeVellis, 1991). Consequently, Webster's (1990, 1993, 1995) marketing culture work was considered a pertinent form of culture for three reasons. First, guided by Desphande and Farley's (1999) organizational culture research, Webster (1995) notes how a marketing culture "refers to unwritten policies and guidelines which provide employees with behavioural norms" (p.6). The logic being, such behavioural norms support the desired brand identity via greater behavioural consistency at the 'service encounter' (Bowen, Chase, & Cummings, 1990). Second, marketing culture refers to the importance an organization places on the marketing function (Webster, 1995). Consequently, a stronger marketing culture fosters an organizational climate that facilitates the implementation of marketing initiatives (Appiah, Fyall, & Singh, 1999). Third, whilst more product orientated brands can also look to proactively manage their organization's culture, the marketing culture literature was developed specifically with services in mind. The logic being that building and nurturing a supportive marketing culture was regarded as a particularly effective way of managing the variability humans bring to service branding (Karatepe, Avci, & Tekinkus, 2005).

2.2.2. Client relationship management

The importance of brands developing customer relationships has been noted by several brand identity scholars (Aaker, 1996; Aaker & Joachimsthaler, 2000; de Chernatony et al., 2010; Kapferer, 2004). Aaker (1996) considers the brand-customer relationship as the "bottom line" (p. 103) in driving and enhancing brand identity programs whilst Aaker and Joachimsthaler (2000) outline how "one goal of the brand should be to create a relationship with its customers" (p. 50). Relationships comprise a facet of Kapferer's (2004) Brand Identity Prism whilst de Chernatony (2006) notes how the relationships staff have with each other, customers and other stakeholders underpin brand identity. The importance of relationships are reiterated within the B2B brand literature (Bengtsson & Servais, 2005; Gadde & Hakansson, 2008; Glynn, 2010; Lee et al., 2010) where scholars such as Campbell et al. (2010) refer to relationships as the "cornerstone of industrial marketing" (p. 712).

The important role building and managing client relationships plays has been noted in the broader B2B brand literature. Consistent with Kotler and Keller (2006), several scholars highlight how relationships perform a crucial role for B2B brands due to the interpersonal nature of the market and complex selling process (Bengtsson & Servais, 2005; Campbell et al., 2010; Gadde & Hakansson, 2008; Glynn, 2010; Lee et al., 2010; Lindgreen et al., 2010). van Riel, de Mortanges, and Streukens (2005) outline how in markets where products are complex or high in value, as is frequently the case in B2B markets, buyers expect value-adding relationships to enrich their buying experience. Lynch and de Chernatony (2004) augment these scholars' views suggesting meaningful relationships in B2B markets are built on both functional and emotional values which help drive competitive advantage.

Given the B2B context of this research it may be more appropriate to refer to client relationship management as opposed to customer relationship management to make explicit the B2B focus of this research.

2.2.3. Corporate visual identity

Several scholars refer to symbolism, symbols or logo when introducing their brand identity frameworks. Aaker (1996) outlines how "a strong symbol can provide cohesion and structure to an identity and make it much easier to gain recognition and recall" (p.84). The value of symbolism, in particular logos, is echoed by Aaker and Joachimsthaler (2000) who argue logos are most important when they create a visual metaphor that helps simplify the process of communicating complex brand benefits. Although not explicit in Kapferer's (2004) work, it is not unreasonable to extend the logic of his physique

dimension to service brands via tangibles such as logo and other organizational nomenclature.

The particularly important role corporate visual identity plays at service brands has been noted by other branding scholars. de Chernatony (2006) outlines how for service brands, physical cues such as the logo, clothes employees wear and premises are particularly important as they help distinguish a brand. Keller (2003) also observes that, due to the intangible nature of service offerings, 'symbols' can be used by the brand owner to convey the brand identity in a more concrete and real manner. These views are consistent with the broader service marketing literature which notes how service brands frequently try to 'tangibilize' their offering through 'symbolism' (Berry, 2000; Bitner, 1990; Shostack, 1977). As can be seen from the above, brand identity scholars tend to use the terms 'symbol' or 'symbolism' and 'logo' interchangeably with the latter falling under the domain of the corporate visual identity literature (Melewar & Saunders, 1998, 2000).

A limited number of B2B scholars have embraced corporate visual identity from a broader perspective as initially developed in the B2C literature (Dowling, 1994; Melewar & Saunders, 1998, 2000; Simoes, Dibb, & Fisk, 2005; Van den Bosch, de Jong, & Elving, 2005, 2006). Blomback and Axelsson (2007) acknowledge the role of premises and employees play in building a B2B brand whilst Kotler and Pfoertsch (2006) consider the efficacy of metaphor as a vehicle for conveying brand values, attributes or personality. Taking a broader perspective, Keller and Lehmann (2006) consider the importance of names, logos, symbols, packaging and slogans as part of a B2B brand building process.

2.2.4. Integrated marketing communications

Although integrated marketing communications has not been identified in the relevant literature as a dimension of brand identity, several scholars outline the important role marketing communications play in mobilizing brand identity. Aaker and Joachimsthaler (2000) note "a key step in implementing a brand identity is communicating it to organisational members and partners" (p. 89) whilst Aaker (1996) considers marketing communication a critical part of brand identity "execution" (p.186). When introducing his framework, de Chernatony (2006) makes reference to "presenting the brand to stakeholders" (p. 53) where 'presentation' is synonymous with marketing communications. Finally, Madhavaram et al.'s (2005) conceptual framework highlights how integrated marketing communications helps make an organization's brand identity manifest.

The role marketing communications plays in B2B markets has been noted in the relevant literature for some time (Gilliland & Johnston, 1997) with Mudambi (2002) highlighting how B2B brands must communicate the value of their brands to a range of *stakeholders* if they are to leverage their full potential. Kotler and Pfoertsch (2006) note B2B encounters are complex interactions affected by multiple stakeholders organizations' communicate with. Consistent with Lynch and de Chernatony (2004), Bendixen et al. (2004) recommend marketers' consider all stakeholders that might influence a customers perception when devising their communications strategy.

In terms of communication focus, B2B brands focus on the organization and not specific product lines. This is a function of the extensive brand lines most B2B organizations have (Bendixen et al., 2004). Blomback and Axelsson (2007) elaborate on this point by emphasising how B2B communications should look to convey organizational abilities and opposed to focusing on a given brand line's benefits. Following Bendixen et al. (2004), Han and Sung (2008) suggest that to create brand value, B2B organizations need to develop marketing communications that augment their corporate brand as opposed to focusing on a range of line brands.

2.2.5. Brand personality

Brand personality is the salient dimension of several brand identity models (Aaker, 1996; Aaker & Joachimsthaler, 2000; de Chernatony,

1999, 2006; Kapferer, 2004). Aaker's (1996) 'brand-as-person' perspective "suggests a brand identity that is richer and more interesting than one based on product attributes" (p. 83) whilst de Chernatony's (2006) notes how brand personality "brings the brand's emotional values to life" (p. 54). Kapferer's (2004) Identity Prism also considers personality as a brand identity facet that "shows what kind of person it would be if it were human" (p. 108) with Aaker and Joachimsthaler (2000) arguing that if a brand identity has been developed without personality it has been too narrowly conceived.

Keller (2003) contends brand personality tends to be less important for B2B brands. The reason being their clients have, unlike consumer markets, comparatively fewer psychological and social needs. This is consistent with de Chernatony and McDonald (1998) who note emotionally influenced decisions are rare in industrial markets. This perspective is grounded in the logic that organizational buying behaviour is predominantly informed by a rational decision making process (Bendixen et al., 2004; Lynch & de Chernatony, 2004; Voss, 1990; Wilson, 2000).

This rational perspective is contrary to an increasing body of knowledge which outlines the salient role emotional in addition to functional aspects of branding play in B2B markets (Bennet, Hartel, & McColl-Kennedy, 2005; Davis, Golicic, & Marquardt, 2007; Lindgreen et al., 2010; Lynch & de Chernatony, 2004, 2007; Malhotra, 2005). Emotions relating to trust, confidence and comfort (Kotler & Pfoertsch, 2006) in addition to pride, peace of mind, security, reassurance, reputation and responsiveness (Lynch & de Chernatony, 2004) provide examples. This more balanced perspective acknowledges decisions are made by humans who have individual preferences, orientations and dispositions with regards to their decision making processes (Kotler & Keller, 2006). The logic for this development in the literature draws on the affect heuristic literature (Finucane, Alhakami, Slovic, & Johnson, 2000) which highlights humans' tendency to justify emotional decisions rationally.

The role emotion plays in decision making has evolved more recently in the B2B literature. Blomback and Axelsson (2007) outline how earlier parts of the decision making process are influenced by first impressions from sales representatives, trade fairs and so forth. Adopting a more contextual approach, Lynch and de Chernatony (2004) note the influence of emotion depends on a range of organizational and individual factors. These include product type and purchasing situation in addition to personal characteristics and the individual's level of involvement in the decision. More recently, Campbell et al. (2010) outline how brand personality alignment plays an important role in channel partner selection. Consequently, the importance of developing an emotional connection via brand personality appears to be extending from consumer to business markets and obtaining increasing scholarly support.

Guided by the above brand identity literature, the domain of brand identity was regarded as spanning marketing culture, client relationship management, integrated marketing communications and brand personality. With the domain of the construct explored, it was necessary to obtain data to develop the scale.

3. Research methodology

The target population consisted of all UK IT Service organizations due to the market's highly competitive nature and B2B focus (Datamonitor, 2007). The relatively undifferentiated nature of most organization's offer places an increased importance on brand differentiation in a market which is largely driven by standards based technical protocols. The sampling frame consisted of 3241 named senior 'marketing' executives working in the UK's B2B IT services sector that was obtained from the One Source database hosted at the British Library. When contact details for a marketing executive were not available the Chief Executive Officer was selected. This decision was informed by the view that B2B service brand identity is a strategic activity and the CEO would be well placed to comment on such issues. A random sample of 2200 executives was drawn from who received the final survey by postal mail. A completed

Table 2
Source of B2B service brand identity scale items.

Dimension	Measurement focus	Items culled/adapted from
Marketing culture	Importance placed on marketing culture.	Webster (1995; 1993; 1990) Kotter and Heskett (1992)
Corporate visual identity systems	Importance placed on Corporate visual identity.	Simoes et al.(2005) Stuart (Stuart, 1999) Melewar & Saunders (1998, 2000) Van den Bosch et al. (2006) Baker and Balmer (1997)
Integrated marketing communications	Degree to which marketing communications is integrated	Reid (2005) Duncan and Moriarty (1997) Ewing and de Bussy (2000) Low and Lamb (2000)
Customer relationship management	The quality of the customer-brand relationship management	Fournier (1994) Roberts, Varki, and Brodie (2003) Iacobucci et al.(1995) Sirdeshmukh et al. (2002) Aaker, Fournier, and Brasel (2004) Boon and Holmes (1999) Sin et al.(2005) Keller (2003)
Brand personality	The strength, favourability and uniqueness of the brand personality association.	

sample of 421 represented a 19% response rate. Whilst lower than the expected 28% for executive level research (Cycyota & Harrison, 2006) this was considered sufficient for subsequent scale development. The completed sample was randomly split into calibration (n = 211) and validation (n = 210) samples (Anderson & Gerbing, 1988; Churchill, 1979; Cudeck & Browne, 1983; Hair, Anderson, Tatham, & Black, 1998; Iacobucci, Saldanha, & Deng, 2007; MacCallum, 1995). The calibration sample was used to develop the scale whilst the validation sample was used to verify the scale dimensionality and establish its psychometric properties.

4. Scale development

4.1. Item generation, content and face validity

To operationalize B2B service brand identity, scale development procedures were guided by the extant scaling literature (Anderson & Gerbing, 1988; Churchill, 1979; DeVellis, 1991; Gerbing & Anderson, 1988; Netemeyer et al., 2003).

With service brand identity defined (see Section 2.1) and a priori dimensionality postulated (see Section 4), it was necessary to generate a pool of items that scaled each dimension. A total of 119 items were generated from the literature that sampled the domains of the five postulated dimensions. Table 2 provides details of the relevant literature used to scale each dimension.

Consistent with the scaling literature multiple items were developed for each dimension.

The initial pool of items was then subject to an expert panel review (Churchill, 1979). The panel consisted of three leading brand academics and three senior consultants working at global brand agencies based in the UK³. Each panel member was asked to rate the extent they thought each item 'represented' the domain of service brand identity

³ The authors would like to express their thanks to the expert panel.

(Zaichkowsky, 1985). Panel members were also invited to suggest new items to enhance content validity. A series of pretests with MBA students working in the IT services sector then followed to assess participants' understanding of questions. This step was informed by face validity concerns. The survey was then piloted with fifty individuals randomly selected from the sampling frame to obtain response rate estimates and 'test run' the survey process. This expert panel, pretests and pilot resulted in the initial pool of 119 items being reduced to 50. This represented the service brand identity items in the final survey.

5. Analysis

5.1. Reliability and exploratory factor analysis

Initially, item-to-total and scale reliability estimates were obtained to assess the internal consistency of the scale and remove 'garbage' items (Churchill, 1979). Cronbach alphas for each subscale ranged from 0.83 to 0.89. These reliability estimates exceeded 0.7 (Nunnally, 1978) and indicated potential item redundancy cf. attenuation paradox (Loevinger, 1954). Given the early stage of scale of development all items were retained. Items that persistently affected the psychometric qualities of the scale would be removed at a later stage. With 50 items and a calibration sample size of 211 the data set was considered suitable for exploratory factor analysis (Hair et al., 1998).

The suitability of the dataset for exploratory factor analysis was further established through the Bartlett's Test of Sphericity ($\chi^2 = 6248.8$, $p < 0.000$, $df = 1035$) and KMO (0.908).

The calibration sample was subject to principal components analysis with PROMAX rotation (oblique) as there were theoretical reasons for expecting the dimensions to correlate (Field, 2005).

Multiple decision rules were used to identify underlying factors (Conway & Huffcutt, 2003; Ford, MacCallum, & Tait, 1986). Factors

needed eigen values greater than 1 (Kaiser, 1960), single items factors were eliminated given the need to develop multi item measures (DeVellis, 1991; Netemeyer et al., 2003) whilst the number of factors extracted should account for 50%–60% of the variance explained (Hair et al., 1998; Streiner, 1994). Guided by these criteria a five factor, 20 item solution which accounted for 56.2% of the variance was selected (Table 3).

The five factors were labeled employee & client focus, corporate visual identity, brand personality, consistent communication and human resource initiatives. The decision to use an oblique rotation was corroborated by the final component correlation matrix which indicated the factors were positively and significantly correlated ($p < 0.05$).

5.2. Confirmatory factor analysis

Using AMOS V16.0.1 the confirmatory factor analytic model was estimated via the Maximum Likelihood method (Fig. 1).

Consistent with the structural equation modeling literature (Chen, Curran, Bollen, Kirby, & Paxton, 2008; Fan & Sivo, 2005) a range of indices were used to assess model fit. The measurement model demonstrated broadly satisfactory levels of fit across all samples (Browne & Cudeck, 1993; Hu & Bentler, 1999). Across the calibration validation and full samples, GFI and CFI were 0.93, 0.92, 0.95 and 0.96, 0.96, 0.97 respectively. The RMSEA was 0.05 for all samples (Table 4).

Standardized item loadings on their hypothesized dimensions for the calibration, validation and full samples ranged from 0.62 to 0.95, 0.50 to 0.98 and 0.55 to 0.97 respectively. The smallest $t = 6.7$ ($p < 0.001$) represented highly significant item loadings across all samples. Across all three samples the average dimension correlation was $r = 0.57$ with the smallest $t = 3.77$. This indicated a strong interaction effect between dimensions.

Table 3

Exploratory factor analysis factor loadings, eigen values, variance extracted and Cronbach's alpha (calibration sample, $n = 211$).

	Factor loadings					Communalities
	E&CF	CVI	BP	CC	HRI	
IT 97. Our employees will help clients in a responsive manner	0.85					0.68
IT 91. Our organization makes an effort to discover our clients' needs	0.82					0.67
IT 35. Our organization responds to our clients' needs	0.82					0.69
IT 2. Our top management is committed to providing quality service	0.81					0.74
IT 10. Our employees as essential part of organization	0.79					0.67
IT 4. Our employees focus on clients' needs, desires and attitudes	0.75					0.73
IT 98. CRM -Our organization fully understands the needs of our key clients by learning from them	0.69					0.75
IT 14. Our organization places an emphasis on hiring the right people	0.68					0.71
IT 53. The font we use is an important part of our visual identity		0.96				0.69
IT 47. Our logo is an important part of who we are		0.80				0.73
IT 55. The corporate visual identity is helpful in making our organization recognizable		0.79				0.77
IT 61. The associations making up our brand personality are extremely positive.			0.84			0.68
IT 62. Our clients have no difficulty describing our brand personality			0.79			0.56
IT 59. Our brand personality has favorable associations			0.79			0.68
IT 107. The people managing the communications program for our organization have a good understanding of the strengths and weaknesses of all major marketing communications tools				0.81		0.70
IT 118. Our organization's advertising, PR and sales promotion all present the same clear consistent message to our stakeholder				0.76		0.71
IT 94. Our organization has established clear business goals related to client relationship management				0.72		0.62
IT 93. Our employee training programs are designed to develop skills required for acquiring and deepening client relationships					0.88	0.71
IT 15. Our organization provides skill based training to front-line employees					0.84	0.76
IT 3. Our organization regularly monitors employees' performance					0.80	0.68
Eigen value	14.44	4.92	2.02	1.96	1.53	
% of Variance	33.57%	10.69%	4.39%	4.2%	3.33%	
Cronbach's α	0.91*	0.78*	0.78*	0.75*	0.81*	

Extraction method: Principal Component Analysis. Rotation method: Promax with Kaiser Normalization. *No item to total correlations < 0.3 .

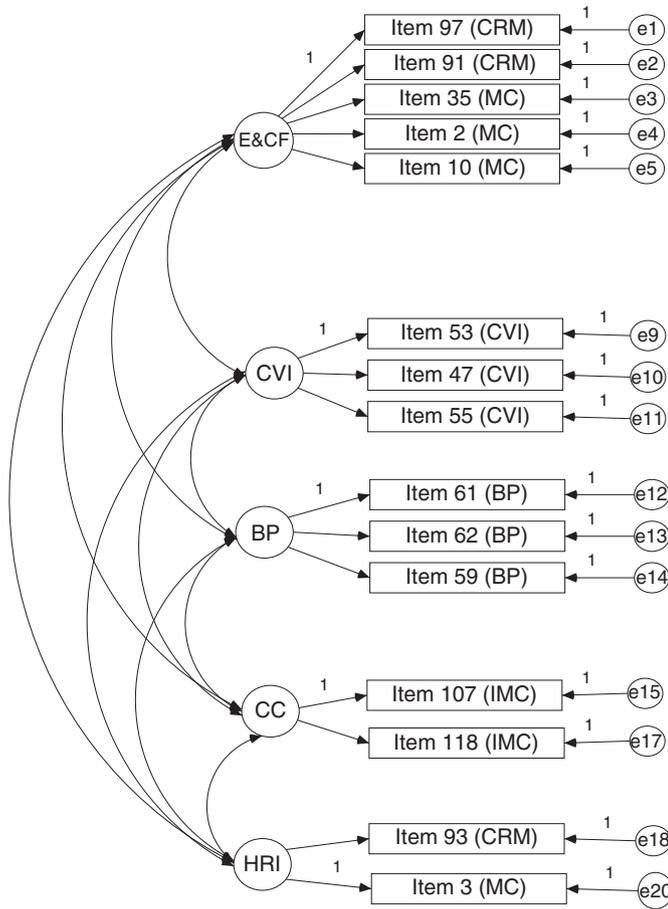


Fig. 1. B2B service brand identity measurement model.

5.3. Composite reliability and construct validity

To assess the internal consistency of the five B2B service brand identity subscales the validation sample was used to calculate composite reliabilities (Fornell and Larcker 1981). All composite reliabilities exceeded the recommended level of 0.6 (Bagozzi & Yi, 1988); employee & client focus (0.89), corporate visual identity (0.77), brand personality (0.75) consistent communication (0.73) and human resource initiatives (0.75).

The scale's construct validity was assessed next. Given the item pool had been subject to expert panel review the scale was considered face valid whilst the domain of each dimension had been extensively sampled to enhance the scale's content validity. Three tests demonstrated convergent validity. First, all average variance extracted values were greater than 0.5 (Fornell & Larcker, 1981). Second, the smallest item test statistic was greater than 1.96 ($t=6.7$; $\alpha=0.001$) (Anderson & Gerbing, 1988). Third, all standardized factor loadings were greater than 0.5 (MacCallum, 1995). Discriminant validity was assessed in three ways. First, the χ^2 for the unconstrained five factor model was significantly lower than the χ^2 of each constrained model (Gerbing & Anderson, 1988). Second, all estimated confidence intervals

Table 4 Measurement model fit indices.

	χ^2	df	χ^2/df	B-S p	GFI	AGFI	IFI	TLI	CFI	RMSEA (90% CI)
C	127.27	80	1.59	0.16	0.93	0.90	0.96	0.95	0.96	0.05 (0.04–0.07)
V	133.96	80	1.68	0.08	0.92	0.88	0.96	0.95	0.96	0.05 (0.04–0.07)
F	162.36	80	2.03	0.02	0.95	0.93	0.97	0.96	0.97	0.05 (0.04–0.06)

C=calibration sample (n=211), V=validation (n=210) and F=full sample (n=421).

(+/- two standard errors) for each dimension correlations did not contain the value 1 (Anderson & Gerbing, 1988). Finally, with the exception of the brand personality and consistent communications correlation, the variance extracted estimates were greater than the square of the correlations for each pair of dimensions (Venable, Rose, Bush, & Gilbert, 2005). However, the previous discriminant validity tests show that forcing a four factor model results in a deterioration of model fit whilst there are no theoretical reasons for assuming brand personality and marketing communication-related items should be combined. The result of this analysis was a five dimensional, 15 item B2B service brand identity scale (Table 5).

6. Conclusions

6.1. Theoretical contributions

This is the first study of its kind that has adopted a grounded approach to B2B service brand identity scale development. Guided by the domain sampling model and the extant scaling literature this research has developed a parsimonious, valid and reliable B2B service brand identity scale. As a result of this scale development our research has empirically demonstrated, in the UK's B2B IT service sector, B2B service brand identity is a second order multidimensional construct comprising five dimensions. These are employee and client focus, visual identity, brand personality, consistent communications and human resource initiatives. The eclectic range of disciplines these dimensions span highlights the broad theoretical roots of service brand identity which give rise to the construct's multidisciplinary nature.

Application of the service brand identity scale can facilitate subsequent theoretical development in marketing and other research domains. Marketing scholars can apply the scale to assess the construct's influence on a range of endogenous variables such as brand performance, revenue or reputation. Variables such as employee satisfaction or labor turnover can also now be treated as endogenous variables as part of a full structural model. Applying the scale in this way facilitates

Table 5 Final B2B service brand identity scale.

Employee & client focus	Our organization treats each employee as an essential part of the organization Our employees will help clients in a responsive manner Our organization makes an effort to discover our clients' needs Our organization responds to our clients' needs Our top management is committed to providing quality service
Corporate visual identity	The font we use is an important part of our visual identity Our logo is an important part of who we are The corporate visual identity is helpful in making our organization recognizable
Brand personality	The associations making up our brand personality are extremely positive Our clients have no difficulty describing our brand personality Our brand personality has favorable associations
Consistent communications	The people managing the communications program for our organization have a good understanding of the strengths and weaknesses of all major marketing communications tools Our organization's advertising, PR and sales promotion all present the same clear consistent message to our stakeholders
Human resource initiatives	Our employee training programs are designed to develop skills required for acquiring and deepening client relationships Our organization regularly monitors employees' performance

the development of theoretically grounded and empirically informed insights in a range of business related disciplines.

From a philosophical perspective, this research moves the existing brand identity research paradigm from a conceptual to an empirical domain. This has been achieved by developing a theoretically informed and empirically validated scale with associated dimensionality. By doing this, our research challenges and advances the existing research paradigm (Kuhn, 1996) where more conceptually orientated models predominate (Aaker, 1996; Aaker & Joachimsthaler, 2000; de Chernatony, 2006; Kapferer, 2004).

The positive and highly significant dimension correlations indicate service brand identity is a holistic construct driven by synergistic dimension relationships (see Section 6.2). It is more appropriate to consider service brand identity as a synergistic network (Fig. 2).

Considering service brand identity in this way is consistent with the view that a holistic approach to B2B brand marketing should be adopted (Kotler & Pfoertsch, 2007). When considered holistically, the B2B service brand identity network integrates internal (employees, managers) and external (clients, upstream members of supply chain) perspectives. This answers Asem and Kosteljik's (2008) call for the marketing literature to follow strategy scholars such as Srivastava et al. (1998) and Sharma (1999) by reflecting internal and external orientations as opposed to focusing on the former.

6.2. Managerial contributions

Before managers can build B2B service brand identity they need to understand what dimensions make the construct manifest. This research provides clear guidance on what constitutes B2B service brand identity (dimensions) and what activities (items) comprise those dimensions. The framework's dimensionality provides managers with the conceptual apparatus to delineate B2B service brand identity whilst the underlying scale items provide managers with specific activities to structure and mobilize their early thoughts around each dimension.

When managers embark on a B2B service brand identity building programme they need to consider an eclectic range of activities. Regarding B2B service brand identity as being synonymous with visual identity ignores the multidimensional nature of the construct. When conceiving and building B2B service brand identity managers need to find answers to questions such as 'Are we focusing adequately on our employees' and clients' needs? What type of brand personality do we wish to develop? How consistent is our marketing communications? How can we use the font, logo and other visual identity aids as part of our overall service brand identity? What human resource initiatives do we have in place to support our desired service brand identity? Only when such questions are addressed will managers be considering the breadth of issues that span the domain of B2B service brand identity.

When applying this B2B service brand identity scale managers now have a tool for auditing and tracking their service brand identity. If used over a period of time the results from such measurement enable managers to assess the effectiveness of the service brand identity

management and so take corrective action where necessary. The parsimony of the scale is intended to facilitate such practical applications.

The integrated nature of B2B service brand identity implies managers should carefully orchestrate all dimensions of B2B service brand identity to capitalize on the construct's symbiotic characteristics. Only when managers approach B2B service brand identity development holistically will they realize the construct's full benefits. Whilst positive correlations highlight how dimensions synergistically 'feed' off one other, it is important managers consider the adverse effect of positively correlated dimensions. A neglected B2B service brand identity dimension could act as a millstone and burden other dimensions.

When planning and building B2B service brand identity it is crucial those responsible for brand take the initiative to build strong cross functional relationships with their human resource counterparts. Brand marketers' need to encourage those responsible for human resources to recruit, induct, train and reward individuals who will help propagate the desired B2B service brand identity via their behavior (cf: Baumgarth, 2010; Baumgarth & Schmidt, 2010). This point is consistent with the view that for service brands, functional alignment between marketing and human resources is particularly important (Balmer, 1995; Davies & Chun, 2006; Davies, Chun, da Silva, & Roper, 2003; de Chernatony, 2006; King, 1991; Wilson, 2001; Zeithaml, Bitner, & Gremler, 2006) and takes on increased importance, given that human resource managers tend to be comparatively unaware of strategic marketing activities (Harris & Ogbonna, 2001). Encouraging greater functional alignment between brand and human resource also follows other scholars' who advocate the need for B2B brands to actively engage employees in the brand building process (Beverland, Napoli, & Lindgreen, 2007; Webster & Keller, 2004).

6.3. Limitations and further research

As with all research, limitations exist which should not be ignored (DeVellis, 1991). This research has focused on B2B IT services in the UK. It is debatable if the findings presented here generalize to other markets, sectors or countries. Questioning the plausibility of generalizing this research's findings follows Leone and Shultz (1980) who outline the elusive nature of marketing generalizations. Researchers are encouraged to extend this research into other B2B sectors.

The findings presented here should be couched within the knowledge that B2C-based literature has been used to dimensionalize service brand identity. Adopting this approach could call into question the relevance of the literature used to ground the domain of service brand identity given the unique characteristics of B2B markets (Cretu & Brodie, 2007; Kotler & Pfoertsch, 2006). This decision was informed by Elaboration Theory (Lee, 1999) and previous B2B marketing scholars' s (Baumgarth & Schmidt, 2010; Beverland, Napoli, & Lindgreen, 2007; Cheng, Blankson, Wu, & Chen, 2005; Kuhn, Alpert, & Pope, 2008; Rozin & Magnusson, 2003) who have modified consumer models for the business to business research when no or little B2B literature is available (Wind & Webster, 1972). Guided by this rationale this limitation is to be expected given the paucity of B2B service branding research.

From a methodological perspective, a qualitative stage could have been used to generate additional items when sampling the domain of B2B service brand identity. This could also have reduced measurement error by using specific language the population used to communicate (Ping, 2004). The use of qualitative methods after the scale had been developed could also have helped assess the face validity of the proposed B2B service brand identity dimensionality.

Mediating variables could be incorporated into a structural model which considers service brand identity with an endogenous variable such as brand performance. Following the strategy literature, potential variables could include organizational structure (Burns & Stalker, 1961), resources (Barney, 1991), regulatory restrictions (Denison & Mishra, 1995) and industry structure (Porter, 1980). Incorporating

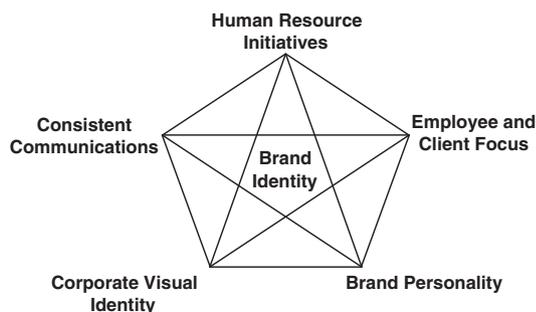


Fig. 2. The B2B service brand identity network.

such variables into the model would allow researchers to assess the stability of the scale under a range of more realistic conditions.

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