Facilitating Customer Adherence to Complex Services through Multi-Interface

Interactions: The Case of a Weight Loss Service

Abstract

Today's communication landscape affords multiple service interfaces to promote customer engagement (i.e. adherence) with complex and prolonged services, but understanding of how customers use them is limited. This study compares personal and non-personal interfaces that provide educational and/or emotional support for customers to develop the operant resources (i.e. competence and motivation) necessary for adherence. A survey of 270 subscribers to a weight-loss programme demonstrates that booklets and a website (non-personal interfaces) provide educational support that enhances role clarity and ability to adhere, respectively. For novices, it is customer forums (personal interface) that afford the educational support needed to develop ability. Group meetings (personal interface) provide emotional support that boosts customer motivation to adhere and, in turn, encourages them to help other customers. Our study distinguishing types of support for adherence, accessed via multiple service interfaces, has implications for management and highlights needs for future research into complex and prolonged services.

Facilitating Customer Adherence to Complex Services through Multi-Interface Interactions: The Case of a Weight Loss Service

1. Introduction

Complex and prolonged services, such as healthcare, weight-loss, education and sports services, require highly engaged customers who participate in co-producing the service to reap the desired benefits (Bitner, et al., 1997). These are services for which customers contribute a considerable range of resources (cognitive, emotional and physical inputs) within their own sphere to co-produce the service, often over prolonged periods of time, by adhering to guidelines set out by the service provider (see also Bitner et al., 1997; Spanjol et al., 2015; Sweeney et al., 2015). Firms are motivated to support adherence as it leads to customer goal attainment, satisfaction (Dellande et al., 2004) and positive word of mouth (Verleye et al., 2014). The modern communications landscape offers firms a multitude of ways to interact with and support customers (Patricio et al., 2011). Further, interactions amongst customers providing help and support to one another are increasingly facilitated through firm-hosted on-line forums (Dholakia et al., 2009), adding to the range of interfaces customers can draw upon to develop the resources necessary for co-production activities. However, there is a lack of insight on how customers seek support in multi-interface environments and, consequently, little guidance for service providers on ways to combine interfaces to support their customers (Neslin et al., 2006). The purpose of this paper is to explore how multiple service interfaces, and the forms of support they provide, help customers to develop the operant resources (i.e. competencies and motivation) necessary for adherence.

The research is carried out in the context of a weight-loss programme, which is recognised to be a complex and prolonged service (Nyer and Dellande, 2010; Spanjol et al.,

2015) because it requires a considerable co-production effort from customers, involving the development of competencies and sustained levels of motivation over some time. Our research focuses upon customer perceptions of educational and emotional support provided by the firm and other customers (i.e. multiple actors) through various service interfaces, examining the effect on aspects of competence and motivation that enable adherence and promote helping other customers.

Customer activities in line with firm guidelines are sometimes labelled as compliance (Dellande et al., 2004). However, we adopt the term customer adherence, which reflects the notion that service customer behaviour is active and voluntary (Meichenbach and Tusk, 1987). Adherence acknowledges that guidelines can be contextualised to fit with a customer's personal preferences and circumstances, which is more aligned with the S-D logic perspective of the customer as an agentic actor (Vargo and Lusch, 2008). This study aligns conceptually with the S-D logic perspective, which views customers as integrators of operant resources (defined as those that are capable of acting on other resources to provide benefit) and operand resources (resources that require action upon them to be useful to co-create value) (Vargo and Lusch, 2008). It acknowledges that customers' value creating activities can take place outside the sphere of the service organisation (Grönroos, 2011) and depend on their own context, practices, resources and experiences (Heinonen, Strandvik and Voima, 2013). While we recognise that operand resources are essential for resource integration, our focus will be on the interfaces that support customers to develop operant resources – competencies and motivation - that are seen as essential to improve adherence (e.g. Spanjol et al., 2015). As detailed later, for the purpose of this study, we define customer adherence as '*customers' co-production activities that apply service guidelines, within the parameters for personalization, to progress toward desired service benefits*'.

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Traditionally, instructions from providers, viewed as embodied service provider expertise, were regarded as the most powerful cue for adherence (Bowman, Heilman and Seetharaman, 2004; Dellande et al., 2004) and attention has centred upon customer education as a way to enable customers to perform ascribed roles and tasks. Although this work has provided valuable insights into the features of customer education (relating to content, channel, timing and source) that influence its effectiveness (Temerak, Winklhofer and Hibbert, 2010), most studies have examined only a single service interfaces, such as face-to-face consultations, leaflets or websites (Auh et al., 2007; Bowman, et al., 2004; Dellande et al., 2004; Lin and Hsieh, 2011; Zaho et al., 2008) and have focused on firm-customer dyads. This reflects a narrow view on service when it is increasingly recognised that developing operant resources can take place through multiple actors, accessible through various interfaces within service networks (Breidbach et al., 2014).

While consumer education positively influences adherence (Dellande et al., 2004), there is growing evidence that support is also required to assist people to implement the regimen, and stick with it. Support from actors including professionals, family members and peers plays an important role in helping people to adapt regimens to their personal circumstances and motivate behaviour over time (DiMatteo, 2004; Zolnierek and DiMatteo, 2009). To enable customer adherence requires attention to the ways educational input and emotional support can be provided, yet there is a lack of empirical research that offers insight into how individuals draw upon these different forms of support, which interfaces they prefer (i.e. non-personal versus personal) and how these interfaces help customers develop the necessary operant resources (i.e. competencies and motivation) necessary for adherence. There is also a lack of understanding whether consumers reciprocate help obtained from the customer community in the context of complex services. The latter is necessary to ensure the survival of such personal forms of support.

To advance our understanding of how service providers can support customers in developing the operant resources necessary for adhering to complex and prolonged services, this paper draws on literature on education and social support to illuminate differences in the types of support provided by personal and non-personal interfaces. Further, it provides empirical insights into the reciprocity generated when customers make use of personal interfaces. Through this inquiry, we hone in on two aspects of customer engagement - adherence and customer helping behaviour (Van Doorn et al., 2010; Verleye et al., 2014) - and offer insights on how to manage these types of customer engagement behaviour via personal and non-personal service interfaces in the context of complex and prolonged services.

2. Literature review and hypotheses development

2.1 Customer co-production and adherence

Scholars have long recognized the importance of enabling customers to perform 'in-role' behaviours (e.g. Bettencourt and Brown, 1997) defined as "behaviors necessary for successful service creation" (Yi, Nataraajan, and Gong, 2011:88). In complex service contexts, these tend to be conceived as a form of co-production given the importance of service provider expertise in shaping recommended activities (Mende and van Doorn, 2015). Early research was dominated by a managerial perspective and focused upon customers' willingness and ability to enact the roles ascribed to them (Kelley, Skinner and Donnelly, 1992; Lengnick-Hall, 1996). However, in the last fifteen years this literature (Bendapudi and Leone, 2003; Dellande et al., 2004; Guo et al., 2013; Meuter et al., 2005) has aligned with the idea that value is co-created (Vargo and Lusch, 2008), acknowledging the idiosyncratic nature of value, the contextualized nature of customers' behaviour and the importance of mutual service relationships.

The terms compliance (Dellande et al., 2004; Gallan et al., 2013) and adherence (Spanjol et al., 2015) are applied to describe the extent to which people enact in-role behaviours

to co-produce complex services; also viewed as forms of customer engagement (Van Doorn, et al., 2010). Although these two constructs have distinct conceptualisations, they are often used interchangeably (Black and Gallan, 2015). Compliance reflects the extent to which a customer conforms to a service provider's requests, policies, or procedures (Guo et al., 2013) and has been criticised on the grounds that it neglects the potential agency of customers (Bastable, 2006). Consequently, some recent research (Seiders et al., 2014, Snell, White and Dagger, 2014; Spanjol et al., 2015) has elected to focus upon adherence, most notably for research into well-being, which interfaces with literature in the field of health.

The concept of adherence is applied in healthcare because it is compatible with models of patient-centred care, which represents a move away from obliging patients to acquiesce to the instructions of healthcare professionals (Lutfey and Wishner, 1999). It reflects the complexity of healthcare, attributes a greater degree of agency to patients and acknowledges the social and personal (psychological, behavioural, personality) barriers that were shown to influence non-compliance (Lutfey and Wishner, 1999). It is defined as "active, voluntary, and collaborative involvement of the patient in a mutually acceptable course of behaviour to produce a therapeutic result" (Meichenbaum and Turk, 1987: 20). The rationale for adopting adherence in service research centres upon the argument that complex services are co-produced and, although organisations provide guidelines, customers derive value by adapting the service to their own preferences and circumstances. It is through adherence, then, rather than compliance, that they are able to realize value within their own personal contexts (Spanjol et al., 2015). However, the definition of adherence that has emerged from the healthcare literature and is applied to service research assumes a high level of personal service from a professional. By contrast, customers of service organisations that adopt mass market models may not explicitly 'agree' a course of action; rather, activities conducive to deriving service benefits are shaped through contextualising service guidelines. Therefore for the purpose of our research

we define customer adherence as *'customers' co-production activities that apply service guidelines, within the parameters for personalization, to progress toward desired service benefits'*. This definition reflects the context of our study and aligns with contemporary concepualizations of co-production that acknowledge the personalised nature of service benefits and customer agency in contextualisation processes.

2. Developing customer operant resources to facilitate adherence

Customers need a variety of operant (e.g., time, knowledge, skill, emotional resilience) and operand resources (money, transport, facilities, equipment) for service co-production (Etgar, 2008). In this study we focus upon ways to facilitate adherence by developing customers' operant resources, specifically, their competencies and motivation to start and persist with adherence activities that they adjust to their personal contexts, which are key challenges identified in recent literature (Guo et al., 2013; Seiders et al., 2014; Spanjol et al., 2015). Insights into these challenges can be drawn from the customer education literature, which has examined ways in which customers develop the knowledge and skills that afford them the *expertise capacity* (Lusch et al., 1992) to co-produce. Prior literature has examined customer education as inputs that provide the means for customers to develop these resources (Auh et al., 2007; Dellande et al., 2004; Eisingerich and Bell, 2008) and has applied approaches including customer socialization (Groth, 2005), customer training (Zaho et al., 2008) and strategic communication of customer skills (Hennig-Thurau, 2000). Conceptual work acknowledges the opportunity for service organisations to harness multiple sources (core service organisation vs. other actors), formats and interfaces as means of developing customers' knowledge and skills (Kelley et al., 1990). Empirical research, on the other hand, has largely concentrated on firm-based educational resources and tends to examine the effects of a single format and interface, for example, instructions and demonstrations (Zaho et al.,

2008), newsletters (Gruen, Summers and Acito, 2000), consultation with service personnel (Auh et al., 2007; Dellande et al., 2004; Eisingerich and Bell, 2008; Seiders et al., 2014) and online forums (Dholakia et al., 2009). A notable exception is a study by Beuningen et al. (2009) who differentiate between firms, third parties and peers as information sources and explores their influence on self-efficacy depending on consumer evaluations of the information each provides in terms of argument quality and source credibility. This research has offered valuable insights but only limited guidance on the diverse ways in which service organisation operating in contemporary communication landscapes can support co-production (Hibbert, Winklhofer and Temerak, 2012; Pera, Occhiocupo and Clarke, 2016).

A further limitation of the customer education literature is that, in concentrating on educational resources, it neglects the possibility that customers access other types of resources in the course of using service support via various interfaces. Social support is an important resource that is associated with adherence (DiMatteo, 2004). Although social support may be provided through separate activities, it can also emerge alongside educational interactions. There is a well-established literature that examines social support in service contexts, emanating from the interactions and relationships between customers and service employees (Lin and Hsieh, 2011; Reynolds and Beatty, 1999; Adeleman and Ahuvia, 1995; Tang et al., 2016; Yim et al., 2008) and other customers (Dholakia et al., 2004; Rosenbaum, 2008; Rosenbaum and Massiah, 2007). There are some highly nuanced categorizations of social support, but a primary distinction is drawn between emotional and instrumental support (Rosenbaum and Massiah, 2007). In health contexts, both types of support are associated with higher levels of adherence (DiMatteo, 2004), but here we focus upon emotional support. Emotional support is derived from communication with social ties and is characterized as person-centred supportive messages (Burleson, 2008), which is the main form of support provided by service personnel and customer communities in social networks. By comparison,

embedded social networks, incorporating close social ties such as family and friends, are more likely to provide both emotional and instrumental support. Research has shown that support from social groups in service contexts not only enables co-production activities; it also encourages customers to reciprocate by helping others (Dholakia et al., 2009; Rosenbaum and Massiah, 2007). Customers are likely to feel indebted toward others (i.e., the community) for benefits received (i.e., knowledge and social support) and pay back by offering help to the community (Palmatier et al., 2006). This form of engagement with the customer community is valuable to augment and sustain the resources of the community. The emerging literature on customer engagement links these various concepts. It provides evidence that support from other customers and from the service provider is essential to gain role readiness necessary to stimulate engagement behaviours (e.g. compliance and helping other customers) (Verleye, et al., 2014).

Increasingly service organisations use multiple interfaces for customer interactions (Patricio et al., 2011), but sometimes with a lack of insight into the benefits that customers seek from particular interactions in multi-interface environments and a limited view of how to combine interfaces to achieve strategic goals (Neslin et al., 2006). The types of interfaces typically deployed for customer education incorporate traditional media used for marketing communications, including print, broadcast and face-to-face communications in various formats (individual consultations, group meetings, workshops or training sessions) along with those that deploy Internet based communication technologies such as websites and social media platforms. For organisations seeking to support adherence, it is helpful to distinguish those that can give customers access to different forms of support, to help them develop the competencies and motivation to adhere to a programme. To this end, we suggest that it is helpful to distinguish between personal and non-personal forms of communication (Hartley and Pickton, 1999). The traditional distinction between personal and non-personal communications is used

less often in contemporary scholarship as research often seeks to characterise communications via new information and communication technologies (Liu and Shrum, 2002). However, this traditional distinction is relevant here given the capacity of inter-personal interactions to afford the types of resources needed to support adherence.

The interfaces that facilitate personal communications are inherently interactive (Liu and Shrum, 2002) and the flexibility of two/multi-way communications means that educational and emotional support can be provided and personalised (Dholakia et al., 2009). Interpersonal interactions can be a source of inert knowledge (i.e., codified representation of service expertise, e.g., a nurse describing the risk of smoking) but they are also well suited to supporting customers by giving access to experience-based knowledge that helps people to adapt activities to fit with their everyday lives. By contrast, when non-personal communications are deployed to provide educational support, they tend to give access only to knowledge-based resources and, primarily, to inert knowledge. However, the extent to which customers use alternative service interfaces depends upon the benefits that they derive (Hsiao, Yen and Li, 2012) rather than the inherent character of those resources. The weight-loss service that provides the context for our study supports customer adherence through four interfaces: two non-personal forms, namely booklets and a website; and two personal forms, including group meetings led by a trained member of staff and an online forum that provides a platform for interactions amongst the customer community. This empirical context provides the opportunity to examine how customers perceive the benefits of adherence support through service interfaces characterised by educational and emotional support from the firm and other customers and through different media.

2.3 Conceptual model

The gaps in research on support for customer adherence to complex and prolonged services are addressed in the conceptual framework developed for this study, which is depicted in Figure 1. The framework posits that different forms of support, incorporating multi-interface (non-personal and personal) and multi-actor support, are needed to develop key operant resources that enable customers to adhere to a service and encourage them to help other customers, thus contributing to the cycle of activity that strengthens the resources of the customer community. Although helping behaviour is not directly linked to adherence, it is included in the model to close the loop of receiving support from other customers (see Verleye et al., 2014).

In the following sections, we outline the theoretical rationale for the key relationships represented in our framework and advance research hypotheses. The framework also includes involvement as a control variable, which is discussed in the research method section.

Insert Figure 1 – about here

Our first two hypotheses focus on the interrelationship of operant resources that are developed through the various service interfaces and facilitate adherence. Previous research has shown that role readiness, is an important antecedent of service co-production (Bitner et al., 2002; Dellande et al., 2004; Meuter et al., 2005). The conceptualisation of role readiness draws upon role theory (Solomon et al., 1985) and social cognitive theory (SCT) (Bandura, 1986) as customers need a clear understanding of their roles, and to have the ability and motivation to perform them by enacting certain behaviours (Berry and Bendapudi, 2007; Bitner et al., 2002; Lengnick-Hall et al., 2000; Meuter et al., 2005). Much recent research that aligns with S-D Logic has turned to strong sociological perspectives to explore how internal and

external forces shape service exchange. In this study we concentrate on micro level processes by which customers' develop operant resources for adherence and draw upon SCT because it attends to individuals' internal processes but recognises that they act within external constraints (see Evans (2007) for a review of theories that recognize forces of structure and agency). A similar balance characterises role theory, which reflects individual interpretations of roles but, acknowledges that social and service roles are shaped by external forces.

Key components of role readiness are role clarity, ability and motivation (Dong et al., 2008; Meuter et al., 2005). Role clarity "reflects the consumers' knowledge and understanding of what to do" (Meuter et al., 2005: 64). Ability is defined as the skills and confidence to undertake the role (Bitner et al., 2002), while motivation is "a customer's incentive to carry out their role" (Dellande et al., 2004: 79). When customers understand their expected roles in the service co-production process, they are better placed to assess whether they have the necessary skills and abilities to perform tasks associated with those roles which, in turn, has a motivating effect (Bandura, 1986; Bettencourt et al., 2002). Empirical studies have confirmed the positive influence of role clarity on customers' ability and, in turn, on their motivation to engage in a particular behaviour (Dellande et al., 2004; Dong et al., 2008; Zaho et al., 2008). It therefore follows that:

H1: Role clarity positively impacts on a customer's ability to adhere to a service programme

H2: Customer ability positively impacts on a customer's motivation to adhere to a service programme

Previous scholarship concerned with the psychological processes that mediate the effects of support provided for customer co-production has linked educational inputs to one or more aspects of role readiness. The literature is somewhat patchy and inconsistent focusing, for instance, upon role clarity (Groth, 2005; Verleye et al., 2014) or the joint effect of ability and

motivation (combined in the self-efficacy construct) (Beuningen et al., 2009; Snell et al., 2014). Dellande et al. (2009) provide a more comprehensive view with a study that examines how educational support impacts upon all three dimensions of role readiness (i.e. role clarity, ability and motivation). However, in common with the broader customer education literature (Auh et al., 2007; Dholakia et al., 2009; Eisingerich and Bell, 2008; Zaho et al., 2008) they focused only a single educational interface (i.e. service personnel) and do not examine the effects of emotional support, which can also be accessed through personal interfaces.

Our model addresses this gap by examining how multiple interfaces influence role readiness, distinguishing amongst the types of support that each affords. We concentrate on personal (i.e. group meetings, online forums) and non-personal (i.e. booklets and a website) interfaces and our foregoing discussion explains the strengths of each type of interface to provide educational support, incorporating inert and/or experience-based knowledge, and emotional support. We propose that educational support specifically develops elements of role readiness relating to customers' knowledge and experience, that is, role clarify and ability. We posit that support through each type of interface is positively associated with role clarity and ability, although the strength of these relationships may vary due to the type of knowledge that personal and non-personal interfaces convey:

H3a: Educational input received via personal interfaces (i.e. meetings and online forums) positively impacts role clarity to adhere to a service programme.

H3b: Educational input received via non-personal interfaces (i.e. booklets and website) positively impacts role clarity to adhere to a service programme.

H4a: Educational input received via personal interfaces (i.e. meetings and online forums) positively impacts customer ability to adhere to a service programme.

H4b: Educational input received via non-personal interfaces (i.e. booklets and website) positively impacts customer ability to adhere to a service programme.

While education has the potential to indirectly affect motivation due to its influence on role clarity and ability, emotional support is likely to have a direct positive effect in motivating customers to adhere to a programme. Personal interfaces such as group meetings and online forums can bring together service staff and customers to create social networks. Engaging with these personal interfaces affords emotional support in the form of assistance and encouragement that helps to build a sense of confidence and control in relation to personal health (Pålsson, and Norberg, 1995), such that customers are more motivated to address their own challenges, persist with actions and invest effort in overcoming obstacles (Dholakia et al., 2009). A primary effect of emotional support, therefore, is to motivate customers for adherence activities:

H5: Emotional support received via personal interfaces (i.e. meetings and online forums) enhances customer motivation to adhere to the programme.

The left hand side of our model (see Figure 1) details the drivers of adherence and the broader engagement activity of helping other customers. As argued for our first two hypotheses, the effects of role clarity and ability on adherence are, in part, due to their influence on motivation. Hence, motivation is a key aspect of role readiness that drives customer co-production (Lengnick-Hall et al., 2000; Meuter et al., 2005), especially in the context of complex services where "motivating the customer to comply with his or her service roles becomes all the more difficult/important when the customer must carry out his or her roles for an extended period of time – for example, long term health care, retirement savings, credit repair, and so on" (Nyer and Dellande, 2010, p. 2). This is empirically supported in the context of weight-loss (Dellande et al., 2004) and exercising (Desharnais et al., 1986). There is evidence that a customer's ability to adhere to a service process, which captures whether they

have developed the necessary knowledge and skills, also has a direct effect on adherence (Dellande et al., 2004). This is consistent with SCT, in that people are more prone to engage in activities for which they are capable, and to avoid those that are beyond their abilities (Ozer and Bandura, 1990). Hence, we hypothesize the following:

H6: Customer ability is positively associated with adherence to a service programme

H7: Customer motivation is positively associated with adherence to a service programme

Whereas health research has largely concentrated on ways that service organizations can support individual customers or patients, financial pressure in the health sector led to exploring peer support interventions (Dennis, 2003). This approach is consistent with service research that takes a broader network view and examines opportunities around service for service exchange (Ekman et al., 2016). Theoretical support for the idea that customers would want to contribute to service networks comes from social exchange theory (Blau, 1964). Empirical studies have revealed that customers are likely to appreciate emotional support received from service employees or other customers and, in response, they reciprocate by performing voluntary or citizenship behaviours directed at the benefit of other customers (helping others) (Bove et al., 2009; Rosenbaum and Massiah, 2007). In the context of virtual communities, Dholakia et al. (2009) support the direct association between receiving social benefits from community members and helping other members (e.g., responding to other posts and questions). Helping behaviour, a form of customer engagement (Van Doorn et al., 2010), thus closes the loop by reciprocating to the community the emotional support they have received. These results indicate that the influence of emotional support can directly impact customers' tendency to offer help and support to others.

H8: Receiving emotional support via personal interfaces promotes helping other customers.

We note above that people undertake activities when they feel they have the relevant abilities. Research has shown that this extends not only to core service co-production activities, but also to voluntary behaviours (e.g., sharing their complaints and concerns with the service provider) (McKee et al., 2006). Similarly there is evidence that customers who lack the knowledge and ability for such activities avoid them and play more passive roles (Halstead, Jones and Cox, 2007). Thus, we propose:

H9: Customer ability to adhere to the programme is positively associated with helping behaviour.

3. Methodology

3.1 Research setting, approach and participants

A weight-loss service was selected for this study as it is considered to be a prolonged and complex service (Nyer and Dellande, 2010; Spanjol et al., 2015) that requires a considerable co-production effort, involving the development of competencies and sustained levels of motivation over some time. We selected WeightWatchers as a case organization because it has developed a multi-interface strategy, and sought to harness the resources of its members as part of the service network. It supports customers through both personal and non-personal interfaces, drawing from both firm-based resources and those of the customer community. Through regular group meetings and a firm-hosted on-line forum it has created a high personal contact setting characterized by intensive customer-to-customer interactions (Moisio and Beruchashvili, 2009). It is thus able to harness helping behaviour amongst community members as a vital resource to reinforce the network, realizing service benefits for both customers and the firm. Firm-based non-personal interfaces are booklets and the company website.

Data, to test the hypothesized relationships, were collected via an online survey. To understand how support enabled customer adherence, filter questions were included to identify participants familiar with all four interfaces that give access to support. We recruited participants by posting a hyperlink to the on-line survey on WeightWatchers forums. A total of 480 responses were received, of which 413 were complete. Analysis of the filter questions revealed a total of 270 respondents making use of the booklet, website, online forums and group meetings, who were retained in the final sample. All of the respondents were female, reflecting WeightWatchers predominantly female customer base. The sample combined novice and experienced members; 19.3 % (n = 52) were first time WeightWatchers members, and 80.7 % (n = 218) repeat users.

3.2 Statistical analysis

The model (see Figure 1) is analysed using the Partial Least Squares approach (PLS) (Chin, 1998). PLS allows testing of formative and reflective measurement models, which is not possible in standard covariance based methods (EQS and LISREL) (Diamantopoulos and Winklhofer, 2001).

3.3 Measurement models and variables

The following provides a detailed account how each construct is measured. Appendix A lists the items and type of measurement models employed to capture each of the constructs in the conceptual model.

For each of the four interfaces (non-personal: booklet and website; personal: forum and meetings) we inquired about the customer's perceptions of its educational value. Based on a scale developed by Chen and Wells (1999) customers rated the educational value in terms of five indicators: knowledgeable, educational, informative, useful and helpful. Two items of the

original scale (i.e. resourceful and intelligent) were removed at the piloting stage, as they were not consistently interpreted by respondents in reference to all the four educational interfaces examined in this context.

Emotional support was measured by a scale adapted from Rosenbaum and Massiah (2007). This scale focuses on social interaction, which is central to emotional support, as opposed to instrumental support. The original scale incorporated nine items, but one of these indicators (gives you information or advice) was removed due to the overlap with educational value.

Role readiness encompasses role clarity, ability and motivation. These constructs, and their measurement, originated from organisational behaviour literature but have been adapted for research into service customers. For this study, we adopt Meuter et al.'s (2005) role clarity scale. Ability and motivation are each measured by four-item formative indicators derived from Dellande et al. (2004), who also apply these constructs in a weight-loss context. The indicators are adapted to capture the customers' ability and motivation to adhere to the diet plan, engage in physical activity, pointing food and tracking daily food points. Two other items in the original scale were removed due to lack of relevance to our research context. In particular, they were related to the packaged food supplements.

Adherence to the programme is equivalent to following general guidelines, which allow customers to develop their own food plans and diet regime. The guidelines propose that customers engage in a range of activities (e.g. weighing food, counting points). The context-specific nature of the customer adherence construct makes it difficult to rely on existing measurement scales as evidenced by empirical studies that have developed context-specific scales (Gruen et al., 2000; Lengnick-Hall et al., 2000). Exploratory work revealed that customers vary greatly in the extent to which they adhere to individual parts of the programme; this in conjunction with a detailed content analysis of the forums and the guidelines set out by

WeightWatchers revealed a total of 14 different activities that capture adherence to the service programme as defined earlier (see Appendix A). To satisfy guidelines of formative measure development (Diamantopoulos and Winklhofer, 2001), a generic measure of customer co-production behaviour developed by Groth (2005) (minus two items removed after piloting - see Appendix A) was included to validate the newly developed measure of customer adherence to the WeightWatchers service programme.

To measure customer helping behaviour we used Groth's (2005) scale, which distinguishes customer helping from other forms of citizenship behaviour. Four reflective indicators in this scale were adapted to capture helping others to adhere to the WeightWatchers programme. Respondents were asked to rate all items on a 7-point response format, ranging from 1 (fully disagree) to 7 (= fully agree).

3.4 Control variable

We included customer involvement as a control variable (see Figure 1), as there is considerable evidence that involvement influences adherence and helping other customers (Malthouse and Calder, 2011), which are forms of customer engagement behaviour. Also customer involvement is as a well-established driver of many different forms of engagement such as one's engagement with a community (Hollebeek et al., 2014). Customer involvement reflects "a person's perceived relevance of the [product] based on inherent needs, values, and interests" (Zaichkowsky, 1994: 61). It has cognitive and emotional (though not behavioural) dimensions that create a motivational state promoting various activities associated with consumption. Highly involved customers are enthusiastic to interact with other network partners (e.g., other customers, peers, organizations) and entities (e.g., community, service, brand) (Baldus, Voorhees and Calantone, 2015).

4. Results

4.1Measurement Model

4.1.1 Reliability

Reflective measurement items were first subjected to principle component analysis and then, confirmatory factor analysis using 5000 bootstrap samples. All the measurement items loaded on their respective factors (see Table 1), exceptions being a single item (Role 4) belonging to role clarity construct as well as three items (Involve 8, Involve 9 and Involve 10) belonging to customer involvement. The factor loadings ranged from 0.67 to 0.96, which is indicative of reliability of the constructs (see Table 1). The values of Cronbach's alpha, composite reliability and AVE exceeded the recommended thresholds in the literature (Hair et al., 2013).

Against our expectations, the seven measurement items of customer involvement loaded on two different factors instead of one. By investigating the wording of the these items, three items (i.e. important, relevant, means a lot) were found to reflect a personal "importance" component of weight-loss, while the other four items (interesting, exciting, appealing, fascinating) were found to reflect how "stimulating" they find weight-loss. These results may reflect the nature of the health care services, which is different from other commercial services (e.g., hospitality services) by being important but not stimulating or an exciting service to go through (Berry and Bendapudi, 2007).

Insert Table 1 - around here

4.1.2 Validity

For reflective measurement models, an average variance extracted (AVE) exceeding 0.5 is indicative of convergent validity (Fornell and Larcker, 1981). As can be seen from Table 1, all constructs meet this criterion. The measurements of latent variables also display

discriminant validity, with square root of AVE exceeding any correlation between constructs (Fornell and Larcker, 1981) (see Table 2).

To establish the validity of the 14-item formative adherence construct, the process described by Diamantopoulos and Winklhofer (2001) is used. Items generated to form the whole domain of the construct are based on an extensive content analysis of documents associated with the programme and via two independent experts familiar with the programme. To assess convergent validity of the formative measure, it is linked with a generic 3-item reflective measure of adherence (see Appendix A). The path coefficient ($\beta = .699$, $p < .01$) indicates a considerable level of redundancy, thus confirming convergent validity (Hair et al., 2013). Maximum VIF of the formative items is 2.81, indicating no problems with multicollinearity. Finally, all 14 formative items have significant outer weights confirming the relevance of the item pool. Weights are derived via multiple regression analysis with the latent variable score as dependent variable and the formative indicators as independent variables (see Hair et al., 2013).

4.2 Structural model and hypotheses testing

The structural model is tested using a bootstrapping approach with 5000 sub-samples. R^2 values show that the model explains 49.9% of customer adherence and 25.9% of helping behaviour. In terms of role readiness, the model explains 9.1% of role clarity, 35.7% of ability to adhere and 52.3% of motivation to adhere (see Table 3 for a summary of results).

In line with H1, role clarity enhances ability to adhere to a service programme ($\beta = .46$, $p < .05$); which in turn strengthens an individual's motivation to adhere, as stipulated in H2 (β

= .65, p <.05). Amongst the non-personal learning resources included in our study, the educational value of booklets (β = .21, p <.05) enhances an individual's role clarity, lending partial support to H3b; and the educational value of the website strengthens their ability to adhere to a service programme, as proposed by H4b (β = .14, p <.05). In contrast, that of a website does not appear to increase role clarity (H3b: β = .08, n.s.) and the educational value of booklets does not seem to be linked to a user's ability to adhere (H4b: β = .06, n.s.). In terms of the educational value of personal interfaces (forums and meetings), they neither seem to improve role clarity (H3a: β = .06, n.s. for Forums; β = .03, n.s. for Meetings), nor a customer's ability to adhere to a service programme (H4a: β = .02, n.s. for Forums; β = .14, n.s. for Meetings).

Previous research highlights that users with varying levels of expertise require different educational input (Bell and Eisingerich, 2007). To examine how approaches to learning develop as customers gain experience we follow the approach adopted by Dagger and O'Brien (2010) and compare novice (n= 52) and experienced customers (n = 218), employing the multi-group moderator analysis function within SmartPLS 3. For novice customers, the educational value of forums enhances their ability to adhere (β = .276 p<.05), which is not the case for experienced customers (β = -.002, n.s.). In contrast, for experienced customers the education value of the website strengthens their ability to adhere to the programme (β =.164, p<.05), which does not apply to novice user (β =.091, n.s.).

Wirth regards to H5, we found evidence that emotional support received via face-to-face group meetings (β = .12, p<.05) motivates an individual to adhere, while emotional support received through personal interactions with the Forum does not appear to motivate (β = .07, n.s.), thus only partly supporting H5.

As expected, ability (β = .16, p<.05) and motivation (β = .52, p<.05) to adhere positively impact on adherence, supporting H6 and H7, respectively. The extent to which an individual

helps other customers depends on their ability to adhere to the programme, confirming H9 (β = .16, p<.05). The results partially support H8, demonstrating that individuals' benefitting from receiving emotional support via attending meetings, a personal interface, are also more inclined to help others (β = .22, p<.01), while the emotional support via on-line Forums does not appear to encourage individuals to help other customers (β = .05, n.s.). Amongst the control variables, individuals who finds weight-loss stimulating are more inclined to engage in helping behaviour (β = .19, p<.01).

In summary, the findings show that each of the four interfaces indirectly enhances adherence through their effect on the three components of role readiness (i.e. role clarity → ability → motivation). The four interfaces support different components of role readiness, or are better suited to specific segments (novice user vs experienced users). For experienced users, only the educational value of non-personal interfaces strengthens role clarity (via booklet) or ability (via website), while the educational value of personal interfaces is perceived as insufficient. On-line forums are only valued amongst novice customers for their educational input in helping them to gain the ability to adhere. Motivation requires a highly personal interface; only the emotional support provided through face-to-face group meetings helps to strengthen customer motivation for all customers. Adherence mainly requires motivation and ability to adhere. There is also evidence that the cycle of customer support is maintained, which is essential for the survival of this personal interface. Engaging in customer helping behaviour is stimulated by the emotional support received through group meetings, an enhanced ability to adhere and finding the topic of weight-loss stimulating. The findings highlight that a diversity of interfaces is necessary to stimulate adherence and the important role customers play in providing the necessary personal interfaces.

5. Discussion and conclusions

For customers to benefit from prolonged and complex services, customer engagement in the form of adherence to a service programme is often required. This is especially true of needs-based services (e.g., chronic disease management, weight-loss, debt management), which necessitate a high level of expertise and motivation from customers as activities necessary to benefit from the service predominantly take place within the customer's sphere (Seiders et al., 2014), resulting in the customer co-producing the service. There is a valuable body of literature that reveals how customer education in various forms can, individually support service co-production (e.g. Auh et al., 2007; Dellande et al., 2004; Eisingerich and Bell 2006; Lengnick-Hall et al., 2000; Zaho et al., 2008). However, the changes in communication landscape bring to the forefront that our current understanding does not offer sufficient guidance for providers of complex services. We argue, to fully understand and support customer adherence demands a better grasp of the interfaces through which customers acquire the necessary operant resources, which we capture through the concept of 'role readiness' (i.e. role clarity, ability and motivation). Unlike earlier work, we simultaneously explore the role of educational and emotional support provided by the firm and other customers through non-personal and personal service interfaces and their impact on customer adherence. We highlight that non-personal interfaces (booklets and a website) primarily provide firm-based inert knowledge, whereas personal interfaces (group meetings and forums) are multi-faceted and, alongside inert knowledge, they also provide insight on how it can be applied in practice, under various circumstances (Contu and Wilmott, 2003), and offer emotional support (Rosenbaum ad Massiah, 2007).

To isolate the individual influence of these different interfaces on components of role readiness, we have included the chain of effects: role clarity influences ability, ability influences motivation, and motivation jointly with a customer's ability drives adherence. Our

results confirm that all three psychological processes are important antecedents of adherence to the weight-loss programme.

Turning our attention to the various interfaces, in the overall sample we find that non-personal interfaces such as firm-generated educational support in booklets enables customers to develop role clarity and the website, which incorporates more detailed information (e.g., recipes for meals consistent with the parameters of the regimen) helps customers to develop the ability to follow the programme. Given that a customer's ability is vital for their motivation to adhere which in turn is essential for adherence, the non-personal interface of a website is an important educational tool. These findings are broadly comparable with previous research that connects firm-based education with customer expertise (although not necessarily based on frameworks that distinguish between role clarity and ability) (Bell and Eisingerich, 2007). However, when we compare novice and experienced WeightWatchers members, we find that the educational value of the website enhances ability for adherence only amongst experienced members. For novice customers the personal interface of forums is more important for developing their abilities. These findings are consistent with the idea that novice customers' interactions with experienced communities play an important role in enabling them to access experience-based knowledge that helps them to incorporate new activities into their everyday life (Lave and Wenger, 1991). Novice users appear to draw on the experiences from other forum members to contextualise the provider-based information given in the form of booklets and websites in order to find solutions that work for them.

The findings also reveal that the emotional support gained from regular face-to-face meetings with other group members directly strengthens their motivation, while the educational value of these meetings is negligible. Our study provides a comparison with the study by Dellande et al. (2004) that focused on personal interactions with a nurse and showed that one-to-one consultations with a professional enhanced role clarity and motivation of customers in

a weight-loss context. This contrast highlights the limitations of customer-to-customer learning and that the main role of customer-to-customer interactions in our study is to give each other emotional support. Only novice customers feel they can improve their ability to adhere from other customers via the forum. More broadly, this research complements previous research that concentrates only on educational inputs for which the effects on motivation are mainly indirect (e.g. Zaho et al., 2008).

The study shows that customers who are confident in their ability and benefit from the personal interactions during weekly meetings are more likely to engage in helping other customers. The desire to help is greater for those who find the topic of weight-loss more stimulating. These findings confirm previous research that examines emotional support and voluntary customer contributions in on-line and off-line service settings (Bove et al., 2009; Dholakia et al., 2009; Rosenbaum and Massiah, 2007). However, by examining this activity alongside adherence we reveal the intersection between these engagement behaviours by showing that customers are also more likely to help others when a personal interface (i.e. group meetings) has enabled them to develop relevant operant resources (i.e. motivation). To sustain the cycle of customers supporting each other within a service network, it is essential to encourage them in both beneficiary and provider roles (Ekman et al., 2016). Finally, our study demonstrates that educational and emotional inputs via non-personal and personal interfaces are required to accommodate the needs of novice as well as experienced users.

6. Managerial implications and future research directions

Managers of complex and prolonged services need to build understanding of how customers develop the operant resources (i.e. competencies and motivation) that they need to adhere to such service. Contemporary service environments afford an array of service interfaces, both non-personal and personal, that can be harnessed to facilitate access to

resources. This study of a weight-loss programme illustrates, for example, that educational support provided through non-personal interfaces (booklets and websites) are valuable resources, especially for experienced customers, who are able to develop role clarity and ability by drawing upon them. It is likely that they act as a reference guide that customers can refer to repeatedly, in their own time, as they build competencies relating to the programme. By contrast, customer forums are a particularly important interface for more novice users as they allow them to contextualise the programme by drawing on the expertise and experience of other users. However, both groups find that the personal interface of meetings helps to motivate them. The differences that we see here between novice and experienced customers highlight the need for a targeted approach such that support for adherence is adapted to the needs of particular customer segments. With the use of technology, there will be ever more scope to develop support that, at least in part, is targeted to individual needs and preferences (e.g., supplying content based on food diary or exercise tracking information). Our findings demonstrate the opportunity to strengthen the resource base by encouraging customers to assume voluntary contributor roles; understanding what motivates these contributions is key to developing such a strategy, especially in the context of complex and prolonged services offered to a mass market, where one-to-one support is likely to be prohibitively expensive.

Prolonged and complex services address some of the most pressing problems in developed economies including personal debt and chronic disease management. Developing ways to improve customer adherence to such services is, therefore, a salient challenge for the research community. Marketing and management scholars are well placed to bring a customer perspective to this enterprise and expertise from fields of service and communications to advance innovative approaches that go beyond organisation-centric service support, to facilitate customer adherence. To build upon the extant research in customer education we would encourage future scholarship to go beyond the traditional focus upon provider-consumer

dyads, to investigate how customers engage with various interfaces and the resources that they derive as they seek to develop the competencies that they need to adhere to complex services. Given that significant problems arise when customers are not able to adhere to programmes, we would also encourage greater research attention to the lack of necessary resources, or barriers to accessing resources, for those people who struggle with adherence.

Our study is limited by the single context in which we examine support for adherence and by the cross-sectional nature of the research. Future research across contexts, and using longitudinal data to represent the dynamic nature of the prolonged services, will help to address these limitations. Further, the sample of this study was recruited on-line to include respondents who use both non-personal and personal interfaces, to examine their perceptions of the educational and emotional values provided by each. However, this has led to the exclusion of respondents who only use off-line interfaces. Future research could also explore similarities and differences between different segments (i.e. on-line users, off-line users and multi-interface users) in the education and emotional support that enables adherence.

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Table 1: Measurement Model Results

Construct[a]	VIF	Weight	Loading	t-value[b]	Coeff. alpha	CR	AVE
Educational Value – Forum (reflective)					.98	.98	.88
Forum1			.93	14.737			
Forum2			.92	13.159			
Forum3			.82	11.232			
Forum4			.94	15.875			
Forum5			.93	15.455			
Educational Value – Meetings (reflective)					.96	.97	.87
Meetings1			.93	14.737			
Meetings2			.91	13.159			
Meetings3			.93	11.232			
Meetings4			.93	15.875			
Meetings5			.94	15.455			
Educational Value – Booklets (reflective)					.96	.97	.87
Booklets1			.94	101.616			
Booklets2			.93	50.456			
Booklets3			.89	53.938			
Booklets4			.95	100.750			
Booklets5			.94	52.638			
Educational Value – Website (reflective)					.96	.96	.86
Website1			.92	62.346			
Website2			.94	61.505			
Website3			.89	43.440			
Website4			.94	79.321			
Website5			.93	46.856			
Role Clarity (reflective)					.73	.86	.60
Role1			.83	26.097			
Role2			.80	24.071			
Role3			.73	11.545			
Role5			.72	14.758			
Helping (reflective)					.82	.88	.66
Help1			.73	20.099			
Help2			.88	57.689			
Help3			.78	20.370			
Help4			.84	31.938			
Involvement-Importance (reflective)					.70	.83	.63
Involvement1			.84	13.897			
Involvement3			.67	7.719			
Involvement5			.85	19.474			
Involvement-Stimulating (reflective)					.82	.87	.64
Involvement2			.83	36.423			
Involvement4			.84	38.466			
Involvement6			.83	30.574			
Involvement7			.68	11.327			
Emotional Support - Meetings (reflective)					.97	.95	.82
Emotional support-meet1			.80	19.597			
Emotional support-meet2			.92	83.047			
Emotional support-meet3			.93	101.647			

	VIF	weight	SL	t-value			
Emotional support-meet4			.90	52.542			
Emotional support-meet5			.92	85.628			
Emotional support-meet6			.93	78.900			
Emotional support-meet7			.90	57.644			
Emotional support-meet8			.93	86.952			
Emotional Support - Forum (reflective)					.98	.98	.88
Emotional support-forum1			.93	62.462			
Emotional support-forum2			.95	101.670			
Emotional support-forum3			.95	99.359			
Emotional support-forum4			.92	33.661			
Emotional support-forum5			.95	72.524			
Emotional support-forum6			.96	118.546			
Emotional support-forum7			.91	55.247			
Emotional support-forum8			.93	34.721			
Ability (formative)					n.a.	n.a.	n.a.
Ability 1	1.289	0.47		5.457			
Ability 2	1.278	0.31		3.698			
Ability 3	1.592	0.33		3.500			
Ability 4	1.138	0.32		4.227			
Motivation (formative)					n.a.	n.a.	n.a.
Motivation1	1.324	0.44		5.262			
Motivation2	1.267	0.26		2.618			
Motivation3	1.682	0.48		5.310			
Motivation4	1.434	0.12		1.433			
Adherence (formative[c])					n.a.	n.a.	n.a.
Adherence 1	1.326	0.08		6.229			
Adherence 2	1.333	0.11		9.034			
Adherence 3	2.315	0.15		17.574			
Adherence 4	1.925	0.13		14.048			
Adherence 5	1.756	0.13		13.737			
Adherence 6	2.078	0.14		15.645			
Adherence 7	1.160	0.07		5.572			
Adherence 8	1.573	0.11		10.516			
Adherence 9	1.885	0.13		13.811			
Adherence 10	1.529	0.12		12.78			
Adherence 11	2.082	0.14		16.115			
Adherence 12	2.566	0.10		10.237			
Adherence 13	2.810	0.11		9.778			
Adherence 14	2.260	0.11		9.526			

VIF = Variance inflation factor, SL = standard loading, CR = composite reliability,

AVE = average variance extracted

a See Appendix A for item description

b Absolute t-values of > 1.645 are one-tailed significant at 5%

c for 14 uncorrelated indicators, max possible weight is $1\sqrt{14} = 0.267$

Table 2: Mean, correlations and AVE

		Mean[b]	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Ability[a]	5.43	n.a.												
2	Adherence[a]	4.94	0.58	n.a.											
3	EV:Booklet	5.80	0.35	0.23	.93										
4	ES:Forum	5.97	0.23	0.17	0.11	.94									
5	ES:Meeting	5.54	0.38	0.29	0.38	0.15	.91								
6	EV:Forum	5.77	0.16	0.13	0.24	0.57	0.06	.91							
7	Helping	4.42	0.40	0.28	0.24	0.16	0.37	0.13	.81						
8	Importance	6.31	0.21	0.26	0.21	0.09	0.11	0.13	0.21	.80					
9	Stimulating	4.70	0.44	0.38	0.24	0.10	0.27	0.04	0.37	0.35	.80				
10	EV:Meeting	5.51	0.32	0.28	0.58	0.03	0.68	0.07	0.22	0.14	0.22	.93			
11	Motivation[a]	5.16	0.71	0.68	0.30	0.24	0.38	0.15	0.38	0.26	0.33	0.37	n.a.		
12	Role clarity	6.10	0.53	0.23	0.28	0.26	0.33	0.14	0.29	0.12	0.32	0.19	0.34	.78	
13	EV:Website	5.89	0.33	0.27	0.51	0.25	0.28	0.37	0.18	0.20	0.20	0.37	0.32	0.22	.93

EV = Educational value
ES = Emotional support
Diagonal displays sqrt of AVE.
[a] = formative constructs;
[b] = mean value of construct: 1 = strongly disagree to 7 = strongly agree
n.a. not applicable

Table 3: PLS Results: Path coefficients and R^2

| Supported	*H*	Structural Path	Std. coefficient	t-value	R square
No	*H3a*	EV: Forums → Role clarity	0.06	0.934	
	H3a	EV: Meetings → Role clarity	0.03	0.667	9.1%
Yes	*H3b*	EV: Booklet → Role clarity	0.21*	2.428	
(partial)	*H3b*	EV: Website → Role clarity	0.08	1.041	
No	*H4a*	EV: Forums → Ability to adhere	0.02	0.290	
	H4a	EV: Meetings → Ability to adhere	0.14	1.531	
Yes	*H4b*	EV: Booklet → Ability to adhere	0.06	0.688	35.7%
(partial)	*H4b*	EV: Website → Ability to adhere	0.14*	1.808	
Yes	*H1*	EV: Role clarity → Ability to adhere	0.46*	6.757	
Yes	*H5*	ES: Forum → Motivation to adhere	0.07	1.392	
(partial)	*H5*	ES: Meeting → Motivation to adhere	0.12*	2.505	52.3%
Yes	*H2*	Ability to adhere → Motivation to adhere	0.65*	13.969	
Yes	*H6*	Ability to adhere → Adherence	0.16*	1.687	
Yes	*H7*	Motivation to adhere → Adherence	0.52*	5.868	
	CV	Importance → Adherence	0.05	0.633	49.9%
	CV	Stimulation → Adherence	0.12	1.607	
Yes	*H9*	Ability to adhere→ Helping	0.16*	1.687	
Yes	*H8*	ES: Forum → Helping	0.05	0.896	
(partial)	*H8*	ES: Meeting → Helping	0.22*	3.583	25.9%
	CV	Importance → Helping	0.07	0.883	
	CV	Stimulation → Helping	0.19*	2.890	

EV = Educational value

ES = Emotional support

CV = control variable;

*Absolute t-value > 1.645 significant at 5% (one-tailed)

Figure 1: Conceptual Model
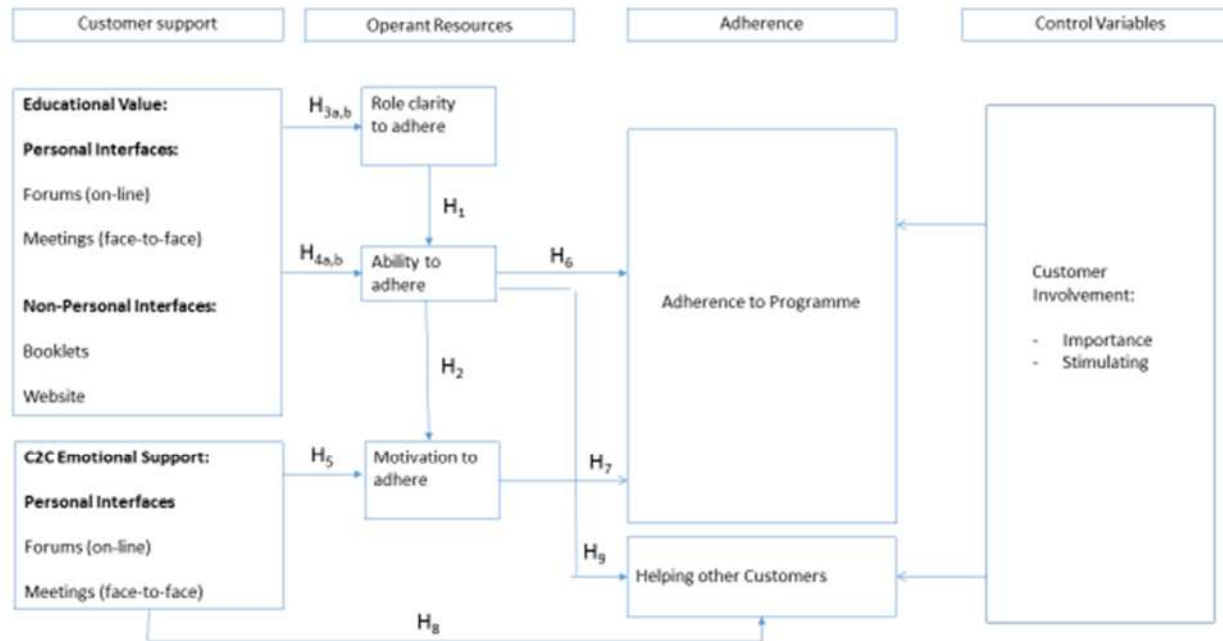
Appendix A: Measurements and Items

A.1 Educational Value of 4 different interfaces: (Source: Chen and Wells, 1999), reflective measure,
Interactive: (a) online discussion boards (b) meetings (i.e. the leader and other members)?
Non-personal: (c) booklets given at the meetings (d) WeightWatcher's website - aside from the online discussion boards.
1. Not informative /informative
2. Not a good source of knowledge/a good source of knowledge
3. Not educational/educational
4. Not useful/useful*
5. Not helpful/helpful*

A.2 Emotional Support (Source: Rosenbaum & Massiah, 2007), reflective measure
Meetings/Forums
1. Encourage you/others not to give up
2. Try to cheer you/others up
3. Show their understanding
4. Show sympathy
5. Are friendly
6. Try to make you/others feel at ease
7. Are warm and affectionate towards you
8. Try to reassure you/others

A.3 Role Clarity (Source: Meuter et al. 2005), reflective measure
1. I am certain about how to effectively lose weight
2. I am not sure how to lose weight properly (*)
3. I know what is expected of me if I lose weight
4. The steps in the process of losing weight are clear to me
5. Directions are vague regarding how to lose weight (*)

A.4 Ability (Source: Dellande et al. 2004), formative measure
1. Not able to follow diet plans described by WeightWatchers
2. Able to determine my daily level of physical activity
3. Able to determine my daily intake of food points
4. Not able to track my daily food/beverage intake

A.5 Motivation (Source: Dellande et al. 2004), formative measure
1. I feel motivated to follow the diet plans prescribed by WeightWatchers
2. I feel motivated to determine my daily level of physical activity
3. I feel motivated to determine my daily intake of food points
4. I don't feel motivated to track my daily food/beverage intake (Recoded)

A.6 Adherence (Source: Developed by authors), formative measure
1. I vary my meals
2. I drink lots of water everyday
3. I snack on healthy food choices
4. I track/point all my food/meals

5. I stick to my daily food points allowance
6. I weigh loose food for accurate pointing
7. I stick to food/meals with low points
8. I make healthy food choices
9. I point/track all my exercise activities
10. If I go over the daily food point limit one day, I cut down in the days that follow
11. I plan my meals ahead
12. I plan for weekends/outings by saving some food points
13. I plan for weekends/outings by saving exercise points
14. If I go over the daily food points, I do more exercise

Adherence (Source: Groth, 2005), reflective measure
1. I perform all the weight-loss tasks that are required
2. I adequately complete all expected weight-loss activities
3. I follow all their weight-loss directives

A.7 Helping (Source: Groth, 2005), reflective measure
1. I assist other members in finding Weight Watchers products
2. I help other members with their weight-loss
3. I teach other members how to lose weight correctly
4. I explain to other members how to lose weight correctly.

A.8 Customer Involvement (Source: Zaichkowsky, 1994), reflective measure.
1. Important-Unimportant (reverse coded)
2. Boring-interesting
3. Relevant- irrelevant (reverse coded)
4. Exciting-unexciting
5. Means nothing-means a lot to me
6. Appealing-unappealing (reverse coded)
7. Fascinating-mundane (reverse coded)
8. Worthless-valuable
9. Involving-uninvolving (reverse coded)
10. Not needed-needed

*Eliminated at scale purification stage