SMALL AND MEDIUM ENTERPRISES USING SOFTWARE AS A SERVICE: EXPLORING THE DIFFERENT ROLES OF INTERMEDIARIES

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ABSTRACT

Software as a Service (SaaS) can provide significant benefits to small and medium enterprises (SMEs) due to advantages like ease of access, 7*24 availability, and utility pricing. However, underlying the SaaS delivery model is often the assumption that SMEs will directly interact with the SaaS vendor and use a self-service approach. In practice, we see the rise of SaaS intermediaries who can support SMEs with sourcing and leveraging SaaS. This paper reports on the roles of intermediaries and how they support SMEs with using SaaS. We conducted an empirical study of two SaaS intermediaries and analysed their business models, in particular their value propositions. We identified orientation (technology or customer) and alignment (operational or strategic) as themes for understanding their roles. The contributions of this paper include: (1) the identification and description of SaaS intermediaries for SMEs based on an empirical study and (2) understanding the different roles of SaaS intermediaries, in particular a more basic role based on technology orientation and operational alignment and a more value adding role based on customer orientation and strategic alignment. We propose that SaaS intermediaries can address SaaS adoption and implementation challenges of SMEs by playing a basic role and can also aim to support SMEs in creating business value with SaaS based solutions by playing an added value role.

Keywords: SaaS, Software as a Service, SMEs, SaaS intermediaries, SaaS vendors, SaaS customers, SaaS adoption, SaaS implementation, SaaS use.

INTRODUCTION

Software as a Service (SaaS) is a software licensing and delivery model where the application or service is deployed from a centralised data centre across a network, providing access and use often on a recurring fee basis (Hoch et al. 2001). SaaS is projected to be a disruptive force at the heart of the operating principles of IT industry such as large capital software and infrastructure investments, centralized procurement and governance, and high service/software deployment cost ratios (Gartner 2012). SaaS makes professional and innovative software applications easily accessible at attractive prices. Some of the often cited benefits from SaaS are the reduction of the total cost of ownership, speed of deployment, reliability and risk mitigation through insulation from the continuous technology upgrades (Waters 2005). Small and Medium Enterprises (SMEs) are projected to be main beneficiaries of SaaS due to its utility pricing model with no or limited upfront capital investments and the ease of access with web browser access, 7 * 24 availability, 30 day free trials, direct subscription and automated upgrade cycles.

Though there are significant benefits to be realized from SaaS, SMEs face a set of challenges while sourcing and leveraging SaaS. For example, a study of SaaS sourcing related to German SMEs reported that there are challenges when integrating SaaS with other applications, there is loss of control over access to data and data migration complexities for SMEs (Haselmann et al. 2011). Further, an adoption study of SaaS explained that the SaaS model shifts all customization investments to the consumer side and the consumers are responsible for maintaining all customized components (Xin et al. 2008). The implications are that SMEs may need development and support skills, if they need to customize SaaS to fit into their environments. These findings are in line with past studies related to the use of IS by SMEs which highlight that resources and skills constraints prevent the full leveraging of benefits from new technologies (Scupola 2009; Palvia 2008; Poon et al. 1997). Though SaaS is described as an important technological and business model innovation that brings in new opportunities for small and medium enterprises (Hong et al. 2009), SMEs may encounter significant challenges in terms of leveraging the opportunities from SaaS.

Because of the self-service approach and the easy access to SaaS applications, there seems to be an implicit assumption that SMEs can directly use these applications. However, as discussed above, we foresee that SMEs are still faced with significant challenges when sourcing and leveraging SaaS. Traditionally, SMEs have used consultants and vendor support to overcome challenges associated with new technologies (Yap et al. 1992). SaaS applications are often provided by SaaS vendors that operate globally and are located abroad and that may only provide limited support to smaller customers (e.g. Salesforce). Therefore, we expect that SMEs will to some extent still rely on trusted providers that act as intermediaries between the SME as a local customer and the global SaaS vendor. This imputes our research question "What is the role of intermediaries for SMEs using SaaS?" Based on our review of existing IS literature on SMEs and SaaS, we observe that there is no study yet that examines the role of intermediaries for SMEs using SaaS. This research aims to bridge this gap with an explorative case study of two Australian SaaS intermediaries.

The remainder of this paper is organized as follows. We begin with a literature review of SaaS, SMEs and SaaS intermediaries. Then we explain the research design, which uses a multiple case study methodology. Next the cases are described and analysed based on a business model framework. Then the findings are presented through a discussion of the different roles of SaaS intermediaries. We conclude the paper with contributions, limitations and topics for future research.

LITERATURE REVIEW

In this section, we briefly address the specific nature of SMEs and discuss SaaS in more detail, in particular the benefits and challenges for SMEs using SaaS. We end with addressing the literature

related to SaaS intermediaries, including intermediaries in general and intermediaries in cloud ecosystems.

Small and Medium Enterprises

In Australia, small business is defined as an actively trading business with 0-19 employees; medium-sized businesses comprise 20-199 employees and large businesses as actively trading with 200 or more employees (ABS. 2012) SMEs contributed to 57% of private industry value added in addition to employing 4.8 million people during 2010-11 in Australia (ABS 2012). The characteristics of SME firms are classified in two major categories, namely, external environment oriented (customer and market) and internal environment oriented (management, human and financial resources) (Cocca et al. 2010). Traditionally, the uncertainty factors from the external environment are high for the SMEs as they normally are price takers and only have a limited customer and product base in which they operate (Storey 2000). In terms of the internal environment, empirical analysis of the role and significance of CEO, firm strategy and structure revealed that the relative growth and profitability of small firms correlated strongly with an innovative product-market position and a more aggressive and analytic mode of decision making guided by an explicitly codified strategy (Miller et al. 1986). However, compared with the large enterprises, SMEs have often implied and undocumented business strategies that are mostly focused on cost efficiencies (Ballantine et al. 1998; Hagmann et al. 1993).

Though the importance of SMEs and their economic contributions are well established, traditionally resource and capability limitations have restricted these firms from capitalizing the opportunities from IS/IT innovations (Mehrtens et al. 2001; Ramdani et al. 2009). Cost, lack of time, skills and knowledge are identified as uppermost barriers for SMEs' adoption of new technologies (Heenetigala et al. 2009). Also, SME information technology expertise is limited in relation to the operationalization of implicit strategies (Ballantine et al. 1998; Levy et al. 2000). An e-commerce adoption study identified financial, technical and managerial resource constraints as the main barriers for SMEs (Lin et al. 2007). Lack of awareness of the potential of ICT into their business operations, the perception of unresolved security and privacy issues associated with the use of internet, high-set up costs and limited skills were also reported as barriers for SMEs' adoption of e-business technologies (Taylor et al. 2004).

Software as a Service

The services offered through cloud-based technologies are classified under three categories namely, Infrastructure as a Service (IaaS), i.e. storage, computing and bandwidth capacity; Platform as a Service (PaaS), i.e. custom development environment to utilise cloud services; and Software as a Service (SaaS), i.e. suite of applications subscribed from cloud (McAfee 2011). The SaaS model can be described as a delivery and subscription model where "the application, or service, is deployed from a centralised data centre across a network, providing access and use on a recurring fee basis" (Hoch et al. 2001). SaaS may be conceptualized as (a) an open market place for software services, (b) the dynamic provision of software for changing user demands, (c) services supply network where service vendor may sub contract to provide their services, and (d) delivery transparency to its users whose main interest is its use (Gold et al. 2004). The SaaS model solves the provider side customisation deficiencies of the Application Service Provider (ASP) model with the multi-tenant architecture and shifts the customization effort to the customer side of SaaS (Xin et al. 2008). Total cost of ownership reduction, speed of deployment, reliability, data security, data safety and disaster recovery, risk mitigation through insulation from the continuous technology upgrades are cited as some of the key benefits of the SaaS model (Waters 2005). A McKinsey study on SaaS highlights that more frequent and less painful software upgrades, a lower cost of ownership and higher service levels are the key advantages of SaaS (Dubey et al. 2007). Research identified the virtualization, service ecosystems and elasticity of cloud infrastructure as the drivers for and significance of SaaS (Barros et al. 2006; Sushil et al. 2010).

SaaS is also discussed as an important technological and business model innovation that brings new opportunities for SMEs (Hong et al. 2009) and can help them to overcome traditional resource and capability constraints. SaaS can potentially address technology related challenges of SMEs as the SaaS delivery model shifts the development, deployment and maintenance of applications to SaaS vendors (Hong et al. 2009). The SaaS subscription model may overcome some of the financial barriers of SMEs in relation to IT. However, there will still be challenges associated with the use of SaaS by SMEs. A recent German study on the SaaS adoption by SMEs concluded that SaaS is not expected to be the revolution in business for SMEs in the near future but declared that SaaS is an important concept in the IS/IT architecture of these enterprises (Haselmann et al. 2011). Gartner (2012) observed that only a few SaaS applications have reached maturity and most SaaS applications still remain far away from mainstream adoption.

SaaS Intermediaries

Traditionally, intermediaries are conceived as part of the marketing channel between producers and consumers, with wholesalers, retailers and specialized intermediaries – such as finance firms, logistics firms and advertising agencies – as their main forms (Stern et al. 1996). Intermediaries bring customers and suppliers together and facilitate demand and supply activities. Intermediaries solve customers' problems and, as a result, suppliers' problems. Their position on the high ground between both groups enables them to create value and charge for it (Anderson et al. 2002). Intermediaries provide value-added services such as aggregation and distribution of products and product information, quality checks and warranties (Chircu et al. 2000). Intermediaries need to make choices with respect to their positioning in relation to the other actors in the business network. These role choices relate to aspects like functional scope (i.e., targeted business functions) and activity focus (i.e., supported business activities) (Fielt et al. 2008). Intermediaries can perform different roles, for example, they can perform basic market functions, provide management support for sourcing or serve as technology adapters (Dai et al. 2002).

The servitization of the software industry via SaaS and other cloud services results in services-oriented systems. Intermediaries can be seen as part of a value chain service system and as separate service systems themselves (Alt et al. 2010). Bardhan et al. (2010) outlined how services-oriented systems will act as a disruptive technological innovation and emphasized the different roles of service producers (e.g., Salesforce, Google), consumers (e.g., SME), service intermediaries (resellers) and service monitors (governments and standard bodies). Intermediaries have been discussed in the wider context of the cloud ecosystem. Recent literature identifies a number of generic roles as part of the cloud service ecosystem: application provider, (technical) platform provider, market platform, infrastructure provider, consultant, aggregator, integrator and consumer (Böhm et al. 2010). Leimeister et al. (2010) identified integrators, consultants and brokers as value adding participants within a cloud ecosystem. Overeem and Vreeken (2014) argue that while cloud providers focus on standardization, cloud brokers focus on customization for each customer and differentiate between configurator, assembler, trust builder and integrator roles for cloud brokers. However, to the best of our knowledge, there has been hardly any attention for SaaS intermediaries so far, in particular in relation to SMEs. The only other study addressing SaaS intermediaries focused on their internal, supply-side capabilities and concluded that business facing skills, customer development and process re-engineering capabilities will become more important (Overeem et al. 2014). While related, our study is more focussed on the external role of SaaS intermediaries in relation to their support for SME customers.

RESEARCH DESIGN

SaaS is a relatively a new phenomenon with little empirical research on SMEs using SaaS and the role of intermediaries. Notable exceptions are a few studies which address SaaS adoption factors, benefits and challenges (Haselmann et al. 2011; Xin et al. 2008). Moreover, to the best of our knowledge, this

is the first empirical study of intermediaries for SMEs using SaaS. Therefore, we opted for an explorative research approach. We used a multiple case study design to investigate the role of SaaS intermediaries for SMEs using SaaS. The case study methodology is proposed as one of the best options for conducting explorative studies when there is scant prior research on the topic (Yin 1994). Also multiple case studies are preferred over the single case study due to the vulnerability of single case study and associated criticism with generalisation of the results as well as for extension of the existing theories (Benbasat et al. 1987; Yin 1994).

We selected two SaaS intermediaries, Alpha and Beta, based on (a) their focus on SME customers, (b) their support for market leading SaaS products, (c) their credentials in the market place, and (d) the availability of key stakeholders for the interviews and subsequent clarifications. Table 1 presents an overview of the two SaaS intermediary firms in this study. Semi-structured, face to face interviews were conducted with representatives from both firms. Two interviews were conducted with the owner of Alpha. Two interviews were conducted with the managing director and one interview with the customer manager of Beta. The duration of the interviews was between 60 to 90 minutes. The interview transcriptions were sent to participants to review for verification of their comments. Contact summary forms (Miles et al. 1984) were completed to record the first observations as well as capture main themes from these interviews. The same form was also used by the researcher to verify that all required data was collected. In addition to this, the information from both companies' websites was used to gather additional data on partnerships and details of the services provided by these intermediaries. When required, specific clarifications were requested via emails and phone calls (for example, SaaS release documentations). The researcher also attended three local Salesforce user group meetings conducted by the owner of intermediary Alpha. This allowed the researcher to observe the interactions between SaaS intermediary Alpha and the SME SaaS customers in the Brisbane market. The NVivo qualitative data management tool was used for the coding and analysis of collected data through the open coding as well as descriptive, interpretive coding and analytical processes.

Firm	Type of firm	No. of SME customers	Interviewees	No. of interviews	Data sources
Alpha	Salesforce intermediary	100+	Owner (Director)	2	Interviews, website, Salesforce user group
Beta	Cloud intermediary	70+	Managing Director, Customer Manager	3	Interviews, website, SaaS roadmap documents

Table 1. Overview of data collection at SaaS intermediaries.

Based on a first summary of the data from both cases, we concluded that the best way to holistically understand the role of the SaaS intermediary would be by means of describing and analysing their business model. A business model describes and analyses how organizations create (and capture) customer value (Chesbrough et al. 2002). More specifically, we adopted the Business Model Canvas (Osterwalder et al. 2010) as this has become one of the most widely applied frameworks by both academics and practitioners and because it covers the core dimensions of a business model (Fielt 2013). The Business Model Canvas consists of nine elements: (1) an organization serves one or several Customer Segments, (2) it seeks to solve customer problems and satisfy customer needs with Value Propositions, (3) Value Propositions are delivered to customers through communication, distribution, and sales Channels, (4) Customer Relationships are established and maintained with each Customer Segment, (5) Revenue Streams result from Value Propositions successfully offered to Customer Segments, (6) Key Resources are the assets required to offer and deliver the previously described

elements, (7) performing of a number of Key Activities, (8) some activities are outsourced and some resources are acquired outside the enterprise via Key Partnerships, and (9) the business model elements result in the Cost Structure (Osterwalder et al. 2010).

CASE DESCRIPTIONS

In this section, we describe both SaaS intermediaries in detail by means of their business model. We highlight some specific details in the text and provide a summarized overview of the business model elements in table 2.

SaaS Intermediary Alpha

SaaS intermediary Alpha is based in Brisbane and provides a selected set of Salesforce related services, in particular consulting, integration and support services, to SME customers that are part of the Salesforce 'ecosystem.' Their Salesforce based value propositions are based on increasing customer awareness of SaaS based opportunities and using best practices for implementation. The intermediary's customers are SMEs customers are often firms that are moving from micro to small size. The firm operates project-based with short duration contracts for customer-specific requirements. The owner explained that "*As an organisation, we are a small team, and we believe that large customers need a large team that can concentrate 100% on that customer. I would be winning in one hand but then at the detriment of the business as a whole. So, definitely looking for smaller, profitable shorter engagements rather than less profitable longer*." The firm had been in business for 3.5 years and serviced around 100+ SME customers so far.

The firm's potential customers originate through referrals and call with specific requests like establishing a contact database. Project duration varies from 10 days for more straightforward configuration and getting Salesforce up and running, to longer engagements involving customization and development. The owner goes through requirement-gathering discussions with the prospects. As part of this process they increase the customer's awareness regarding the opportunities with Salesforce CRM and associated service offerings. The owner of SaaS intermediary Alpha is also the facilitator of Brisbane Salesforce user group meetings where he and his team share the knowledge about best practices in using Salesforce. These knowledge sharing sessions cover a range of topics including Salesforce upgrade idiosyncrasies, question and answer sessions and demonstrations of complementary services that are part of Salesforce eco system. These forums and knowledge sharing sessions can also identify prospective customers for this intermediary.

The key resources of the firm are their authentic Salesforce expertise held in the matured age workforce and the provision of the local access to global knowledge for their SME customers. As stated by the owner: "*Our unique selling point is our experience, our qualifications; we are certified. We definitely promote ourselves as being local to Brisbane*." The firm employs three certified Salesforce consultants with access to global resources via development centres abroad. This intermediary has established partnerships with other SaaS service providers of the Salesforce ecosystem, for example, Nimbus and RadianScore. These partnerships enable access to a wide range of Salesforce related knowledge and solutions that are relevant to their customers' specific situations and are complementary to their own service offering.

SaaS Intermediary Beta

SaaS intermediary Beta offers a 'full service cloud' product which essentially gives an integrated package of all three cloud based services namely IaaS, PaaS and SaaS. This full service offering is aimed at SMEs with no or very limited IS capabilities. For firms with in-house IS capabilities, this intermediary offers specific advisory services towards their SaaS selection and implementation activities. Their SaaS based value propositions are (a) providing advisory services on SaaS product

selection, (b) customization of standard SaaS applications to align with the customers' specific environment situations, and (c) provide best fit solutions by combining a specific set of service options to match their customers' process specific implementation. The managing director classified the potential customers into two categories by stating "*I think, there is really two camps, the ones that go direct to internet and download and play with it, trial with it and they end up with silos of SaaS. They will have silo finance SaaS, silo procurement SaaS and ERP, then they need to this professional to come in to make all talk together. The other ones ask us give us a proposal for everything.*" In 2013, this intermediary had a total of 79 customers out of which 67 belong to the SME category.

In terms of customer engagement, customer focussed consultants conduct a one day or two day workshops with all key stakeholders of their customer firm to get a complete understanding of the customers' current position in the market place, their strategic goals and financial capabilities. The managing director stressed that they always start with the workshop: "*Everything stems from the workshop. We always do the workshops with stakeholders before we implement anything.*" The intermediary provides a 'SaaS roadmap' for their customers along with implementation options to choose after a structured analysis of the information collected in the workshops. The SaaS roadmap gives the options for the SME customers in terms of the choice of SaaS products, customized components with SaaS platform and/or off-the-shelf packages based on the customer's specific needs.

The key resources of the firm are the SaaS programming and implementation skills, locally managed hardware infrastructure, existing customer relationships originating from infrastructure service offerings and the past experiences of managing director. The firm has established service partnerships with global vendors for hardware (Amazon Web Services), network (Cisco) and applications (Salesforce, Google and Microsoft). It is owned and managed by an entrepreneurial managing director who has a track record of creating multiple IT services firms. The contractual relationships tend to be subscription based and long term oriented with 2 or 3 years duration.

Business model element	**SaaS Intermediary Alpha**	**SaaS Intermediary Beta**
Customer Segments	• Micro, small and medium size firms that are already using Salesforce • Focus target market (Salesforce customers only)	• Small, medium and large enterprises as its customers. • Customers from all three cloud based services market
Customer Relationships	• Mostly short term relationship with limited project scope • Community services through co-ordination and facilitation of the local user group forums	• Long term relationship focussed on repeat customers • Cross selling of services to existing customers. • Community engagements through vendor conferences
Customer Channels	• Providing most of the services in person at the customer site • Customers from direct as well as referrals from supply-side partnerships • Knowledge sharing and user group facilitations for identifying prospective customers	• Providing some of the services in person at the customer site (e.g., workshops) • Direct and partnership based channels
Value Propositions	• Focus on Salesforce related service offering • Increase customer awareness of SaaS based opportunities • Knowledge sharing for best practices with implementation • Information sharing of customer specific add-on services	• Cloud based service offering (as separate services and as integrated offering) • Provide advisory role to support the customers SaaS purchasing decisions • Troubleshooting of technical issues from customer's own implementations • Data sovereignty with local storage
Activities	• Development, customization, integration, data migration and back-up related activities for Salesforce and add-on services • Salesforce administration trainings to end users	• Development, customization, and integration related activities for all three cloud services • Conduct business analysis workshops • Special data related activities for data cleansing, integration and localization • Provide help desk services for IT support
Key Resources	• The skills and automation experience of the owner • Consultants with certified knowledge in Salesforce • Access to global software development resources • Limited infrastructure	• The skills and entrepreneurial experiences of the managing director • Consultants with technology expertise for all three cloud services • Access to local and global software development resources • Physical and IT infrastructure • Customer specific knowledge from the existing service subscriptions
Partners	• Partnerships are with Salesforce eco system solution providers only • Use cloud based infrastructure services from external providers	• The partnerships are broader and with all three cloud service vendors
Revenue Streams	• Project based revenues (depend on project duration and services offered to individual customers)	• Two or three year services subscription model provides revenue predictability
Costs	• Key cost contributors are from human resources, office space and global development resources	• Human resource costs, physical office space, local and global development resources • Costs are also from hardware infrastructure and redundant network connectivity related costs • Physical space related costs

Table 2. The business models of the SaaS intermediaries Alpha and Beta.

CASE ANALYSIS

The two case studies provide insights into how SaaS Intermediaries address SaaS opportunities and challenges for SMEs related to (1) increasing the awareness of SaaS based opportunities, (2), getting SaaS applications up and running, (3) integrating SaaS into new and existing business activities, (4) addressing the need for customization of standard SaaS offerings, and (5) leveraging new and innovative features available through automated upgrade cycles. To provide a deeper understanding of the role of the SaaS intermediaries, we analysed the business models of Alpha and Beta from an inside-out perspective (orientation) based on reasoning from activities, resources, partners and costs towards value proposition and customer elements and from an outside-in perspective (alignment) based on reasoning from customer elements, revenues and value proposition towards activities, resources, partners and cost.

For orientation, the case analysis resulted in differentiating between technology and customer orientation. Technology orientation is related to the generic features of the vendor supplied SaaS offerings and getting the SaaS applications up and running in a straightforward way. Customer orientation is related to how intermediaries offer and deliver engagements that address the individual, customer-specific requirements for using SaaS. For alignment, the case analysis resulted in differentiating between operational and strategic alignment. Operational alignment relates to how intermediaries purposefully fit the vendor-offered SaaS solutions with the processes of the SMEs. Strategic alignment relates to how the intermediary's scope of solutions and contractual arrangements go beyond the operational needs of their SME customers. Please note that we differentiate between technology and customer orientation and between operational and strategic alignment as perspectives for analytical purposes. In practice, SaaS intermediaries will be a mix of these perspectives, as also is the case for Alpha and Beta. However, on the whole, Beta demonstrates more customer orientation and strategic alignment than Alpha. This may be explained by the fact that Beta has more physical, technological and human resources and has global partnerships with service providers for all three cloud services (i.e., IaaS, PaaS, and SaaS).

Technology and Customer Orientation of SaaS

Both SaaS intermediaries demonstrate technology and customer orientation within their SME engagement process (Table 3). Technological orientation is related to the generic features of the SaaS offerings and getting the SaaS applications up and running in a straightforward way. Customer orientation is related to how intermediaries offer and deliver engagements that address the individual customer specific requirements using SaaS.

The technology orientation of the two SaaS intermediaries varies in terms of solutions offered to their customers. Intermediary Alpha offers only SaaS solutions that are based upon Salesforce and employs certified Salesforce consultants. The owner of Alpha stated that "*We're only interested in people that have already recognised that Salesforce is the platform of choice for them"*. Intermediary Beta targets customer segments which are in need of all three types cloud-based services, namely IaaS, PaaS and SaaS. Beta offers technology solutions that are based upon multiple SaaS (Salesforce, Google) and other cloud services (IaaS and PaaS) vendors (Amazon & Cisco). Beta has technology integration expertise to integrate the different types of SaaS and SaaS-related infrastructure needs.

In addition to the technology orientation, these intermediaries also demonstrate a customer orientation during the requirements gathering and solution proposal processes with the individual SME customers. During the first step of engaging with their customers and prospects, both intermediaries conduct specific activities to identify the scope of the required SaaS related services for a specific customer or prospect.

In the case of the intermediary Alpha, the owner educates the customer and increases the customer awareness of potential solutions from the Salesforce eco system that can enhance the customer's value with SaaS use. The owner described an example related to a call from a prospect enquiring about setting up a contact database for their micro business. The owner identified the requirement as that micro SME could not track or keep any information related to the received emails during the conversation. He described it with, "*An email comes in to an email inbox or an Outlook inbox. Well, it's relying on somebody responding to it. How many did we get? We don't know. How many were about, were genuine complaints as opposed to just an enquiry? Don't know because there's no analytics on that*." He subsequently elaborated about his proposed solution for this prospective customer during the site visit "*but then, whilst there, I was talking about customer services. so well, how do you deal with issues and complaints and email enquiries, and things like that, and that's why we think that customer services in the Service Cloud kicks in nicely*." In this example, the owner is proposing the 'Service Cloud' product of Salesforce as a solution to address an underlying problem related to managing customer relationships that goes beyond keeping track of their contacts and customers.

In case of intermediary Beta, the requirements gathering and solution proposal process is much longer and more extensive. Such an extended process results in very specific outcomes that can enable the SME to plan for ongoing leveraging of SaaS. This firm conducts one or two day workshops with their customers before starting any engagement. Subsequently, this intermediary offers a best fit solution to address specific needs of their customers. The managing director explained that his firm aims to offer the optimal solution for their customers irrespective of any particular vendor: "*We are vendor agonistic in terms of helping them decide, this is where we do the stakeholder workshop, because we have done this with couple of clients full workshops and we have realized that hang on a sec, we have been thinking that you need a customized application using Force.com but you actually don't. There is an app in Microsoft which you can plug in and use it.*" Moreover, Beta can address specific customer needs by offering a combination solution that uses both SaaS and client-server products.

Business model element	**Technology Orientation**	**Customer Orientation**
Customer Segments	• Size of target customer market (number of SaaS products)	
Customer Relationships	• Short term and limited to the project scope	• Long term and relationship based
Customer Channels	• Referrals via technology partners	• Existing customers asking for additional services
Value Propositions	• Awareness of SaaS and cloud service solution options • Technology skills for initial implementation • Data migration, conversions, clean up and back up services for remotely hosted SaaS data	• Small to large scope of customization • Local access to expertise • Vendor agnostic, integrated, best fit solutions • Additional data services for specific customer needs (data localization and improved quality)
Activities	• Technology related activities (development, testing, minor extensions, configuration)	• Understanding SME business direction • Customer problem resolutions • Best fit solution identification for customer problems
Resources	• Automation knowledge • Salesforce certified skills	• Consultant's knowledge of custom fit solutions • Locally accessible skills and knowledge • Infrastructure for data
Partnerships	• Global technology vendor partnerships	• Vendor agnostic customer focussed solutions
Revenues	• Short term	Long term
Costs	• Global technology development resources	Customer interactions

Table 3. Orientation of SaaS intermediaries.

Operational and Strategic Alignment of SaaS

Both SaaS intermediaries demonstrate both operational and strategic alignment during the execution of their solutions for their customers (Table 4). Through operational alignment we explain how intermediaries implement the vendor-offered SaaS solutions as part of the SME's processes. With strategic alignment, we explain how the intermediary's scope of solutions and contractual arrangements go beyond the operational needs of their SME customers.

Both intermediaries support their SME customers with the full operational implementation of SaaS as part of their particular processes. As intermediary Alpha engages with their customers after their choice for Salesforce, they support the SME to implement Salesforce for their sales and marketing processes. Alpha provides the SMEs with the knowledge so they can 'self-sustain' their SaaS oriented operations after initial set-up, including administration activities. Intermediary Beta minimizes the operational reporting issues with SaaS by data cleansing and security issues with SaaS by data sovereignty solutions. The managing director of intermediary Beta observed that SMEs "*do not cleanse it*

thoroughly and reports do not run correctly and then we go and investigate it to find that the field is numeric field and they have alpha characters in it. It is a very common issue; we sort of mandate that (i.e. data conversions)". What tends to happen is that people try to do it themselves, and ends up very very messy. We say to them, you have to let us do that properly. Because rubbish in rubbish out". These observations explain how intermediary Beta provides ongoing operational support to SMEs, when they start using SaaS.

For strategic alignment, the SaaS intermediaries go beyond the operational needs of their SME customers. Due to their connections within the Salesforce ecosystem, intermediary Alpha provides strategic value for their customers and prospects via the Salesforce user group. In these forums, the owner of Alpha shares knowledge about the important features of new releases from Salesforce (for example, the use of Chatter for collaboration or mobile features that are anticipated in the new release). He also organizes presentations by Salesforce platform vendors that are his supply-side partners. These partners explain the specific features offered via the Salesforce application exchange.

The intermediary Beta completes an extended analysis of customer's requirements through workshops. The managing director described the activities and outcomes of the workshops as follows: "*We basically drill down the entire business with the questions are like how do you actually market your product? How do you sell your product? How do you deliver the product? Or if it is a service, we use product and service interchangeably. How do you make sure that there is no churn? What is your client loyalty program? We have a set template that covers we ask all these questions. There are four fundamental platforms for any business, it is all about identifying the strategy, you have the funding to execute on that, where the funding is going to come from, you have the people to implement and the most important thing is what your execution plan is? We cover all four pillars of a business. We are more like a business coach*". Such investigations enable this intermediary to deliver a SaaS roadmap that is aligned with that customer's strategic "*aspirations*". These workshops also enable intermediary Beta to provide best fit solution options aligned with their customers' strategic objectives.

Business Model Element	**Operational Alignment**	**Strategic Alignment**
Customer Segments Customer Relationships Customer Channels	• Focus on current need (with self-sustainment after set-up) • Onsite for set-up services	• Long term with a strategic focus • Onsite for set-up and enhancement services • Remote location for ongoing support
Value Propositions	• Services for initial set-up only • Best practices for efficient implementation • Self-sustainment of SaaS after initial set-up • Error free operational reporting through data cleansing services	• Also ongoing support and enhancement services • SaaS roadmap aligned with customer business objectives • Trusted advisory role for long term solutions
Activities Resources Partnerships	• Investigations for aligning SaaS for a defined scope of requirements • Develop custom extensions and integration of components for a specific need	• Conduct workshops for understanding business objectives of customers • Ongoing maintenance of customized extensions
Revenues Costs	• Project fees • Physical and human resources for set-up	• Recurring revenue model • Physical and human resources for set-up, enhancement, and support

Table 4. Alignment of SaaS intermediaries.

CASE DISCUSSION

Based on the findings from our case studies in terms of orientation and alignment, we propose that SaaS intermediaries can address the SaaS adoption and implementation challenges of SMEs by playing a basic role based on technology orientation and operational alignment. SaaS intermediaries can also aim to support SMEs in creating business value with SaaS-based solutions by playing an added value role based on customer orientation and strategic alignment. Figure 1 displays both roles of SaaS intermediaries. Below we discuss each role for SaaS intermediaries in more detail and relate our findings to the IS and SaaS literature on SMEs and intermediaries.

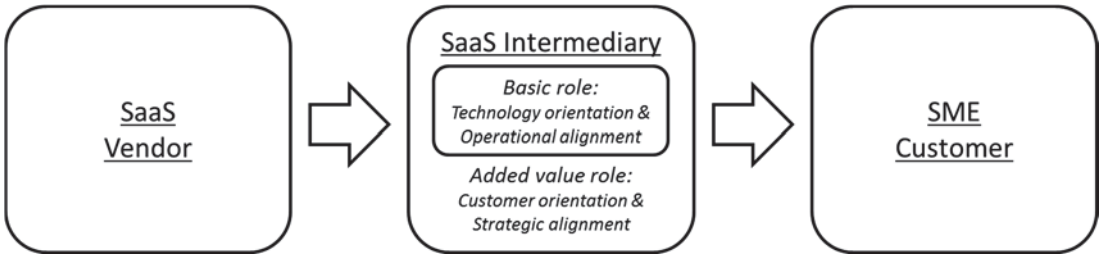

Figure 1. SaaS intermediaries: Basic and added value roles.

Basic role: Technology Orientation and Operational Alignment

The basic role of SaaS intermediaries is characterized by technology orientation and operational alignment. In this basic role, the intermediary supports the adoption and implementation of SaaS by SMEs. This means getting the SaaS application up and running in a straightforward way and making it part of the SME's processes. Previous research of SaaS discusses the technology uncertainties of the SaaS market, data migration complexities and SaaS-specific skills required for basic configurations as some of technology challenges specific to getting a SaaS application operational in the SME environment (Haselmann et al. 2011; Xin et al. 2008).

SaaS intermediaries assist SMEs with technology and operational challenges originating from SaaS adoption and implementation. They conduct the requirements analysis, solution design and implementation activities for their SaaS customers. This includes the configuration of SaaS and may sometimes require intermediaries to educate the SME's admin users to use the controls offered by SaaS vendors to make the application ready for all users in the SME. These activities enable a fully configured SaaS application ready for all users of SaaS within the particular SME's operating environment. A basic role for an agreed scope of SaaS technology and operational activities comes mostly with short-term, project fees based contracts in the case of intermediary Alpha,

Data integrity, locality, data access and data segregation are identified as issues associated with the use compared in-house based data of traditional applications (Subashini et al. 2011). Both firms also offer specific data-related services through data migration, cleansing, integration, with other applications and back-up activities that aim to address the data-related challenges associated with SaaS use. The data related services have the potential to provide SMEs with cleaned up data, keeping the data in local infrastructure and error-free reporting benefits.

Added value role: Customer Orientation and Strategic Alignment

The added value role of SaaS intermediaries is characterized by customer orientation and strategic alignment. In this added value role, the focus shifts to the individual, customer-specific requirements and the bigger, more holistic picture of SaaS and its impact on business value. Due to the depth of knowledge and experience of intermediary Alpha with Salesforce, they address the SME customers' future needs for leveraging SaaS-based solutions. With such practices, Alpha provided an added value role to overcome the knowledge constraints of SMEs with IS (Heenetigala et al. 2009). The upfront workshops by intermediary Beta enable them to provide their customers and prospects with best fit solutions with specific options based upon the holistic understanding of their customers' strategic aspirations. By delivering a SaaS roadmap at the end of the workshop, Beta explicitly documents the SME's business strategy and alignment of technology options with that explicit strategy. Thus, the intermediaries enable SMEs to overcome some of the traditional IS adoption challenges related to align information technology with the SME's implicit strategies (Levy et al. 2000).

Intermediary Alpha has supply-side partnerships with other complementary service providers of Salesforce eco system, which enables them to increase the customer awareness of these SaaS extension options and offer an integrated value proposition from the network of Salesforce vendors. In case of intermediary Beta, supply-side partnerships are established with all three cloud service providers. By such offerings, Intermediaries enables the SME to overcome challenge of lack of awareness of how ICT can enhance their operations (Taylor and Murphy 2004). This results in the integrated value propositions through the full cloud service offerings that includes SaaS, PaaS and IaaS. Intermediary Beta delivers a SaaS road map with applications from a choice of vendors (Salesforce or Microsoft) as well as alternative implementation processes (customization or standard plug-ins) due to their extended engagement during the evaluation stage of their customers' purchasing process.

While the SaaS model can overcome some of the problems and challenges of SMEs with IT, for example, the need for capital expenses related to hardware and software licenses (Waters 2005), it leaves other IT problems and challenges unaddressed, for example, the perception of unresolved security and privacy issues associated with the use of the internet (Taylor et al. 2004), and also introduces new SaaS related problems and challenges, for example, skills and knowledge required for customization needs (Xin et al. 2008) and data management in SaaS applications and the integration of SaaS with other applications (Haselmann et al. 2011). However, the SaaS model often focusses on the role of the SaaS vendor and does not address the role of the SaaS intermediary, in particular for SMEs. The basic role of SaaS intermediaries for SMEs can provide SMEs with easier access to software applications by addressing technology-related problems, for example, data cleaning data migration, application integration (Subashini et al. 2011), and operational challenges, for example, configure and implement SaaS within their operations (Haselmann et al. 2011). The added value role of SaaS intermediaries can support SMEs with creating business value by customer orientation (e.g. understand deep understanding of business needs of the customers, providing vendor agnostic solutions) and strategic alignment (e.g. a SaaS roadmap aligned with business strategy, awareness of new solutions). Overall, we argue that it is the combination of the SaaS model and SaaS intermediaries for SMEs that can provide SMEs with easier access to software applications and support SMEs in creating business value with IT.

Our identification of a basic role and value added role of SaaS intermediaries for SMEs is in line with the findings on internal, supply-side capabilities of Overeem and Vreeken (2014). Overeem and Vreeken conclude that business facing skills, customer development and process re-engineering capabilities will become more important and this is in line with our understanding of the value added role of SaaS intermediaries for SMEs. Looking more generally at cloud intermediaries, we see similarities between our differentiation between technology and customer orientation and the integrator and aggregator roles on the one hand and the consultant role on the other hand of Böhm et al. (2010). Our understanding of strategic alignment adds to the more operational perspective on cloud roles as provided by the value network of Böhm et al. (2010). More broadly, our research shows that even in the electronic world of SaaS and Cloud, which is often predicted to be disintermediated (Malone et al. 1987), there is still a need for intermediaries that solve customers' problems and, as a result, suppliers' problems (Anderson et al. 2002).

CONCLUSION

In this paper, we explored the role of SaaS intermediaries that mediate between SME customers and SaaS vendors. While SaaS offers potential advantages to SMEs, it can still result in adoption and implementation challenges due to the self-service model of SaaS vendors and the complexity of software applications. Therefore, we conducted an empirical study that took a closer look at two SaaS intermediaries to determine the roles they can play to address the SME problems and challenges with SaaS.

We identified different approaches for SaaS intermediaries with respect to their orientation (technology or customer) and alignment (operational or strategic). Technology orientation is related to the generic features of the vendor-supplied SaaS offerings and getting the SaaS applications up and running in a straightforward way. Customer orientation is related to how intermediaries offer and deliver engagements that address the individual, customer-specific requirements for using SaaS. Operational alignment relates to how intermediaries purposefully fit the vendor offered SaaS solutions with the processes of the SMEs. Strategic alignment relates to how the intermediary's scope of solutions and contractual arrangements go beyond the operational needs of their SME customers.

We propose that SaaS intermediaries can address the SaaS adoption and implementation challenges of SMEs by playing a basic role based on technology orientation and operational alignment. SaaS intermediaries can also aim to support SMEs in creating business value with SaaS based solutions by playing an added value role based on customer orientation and strategic alignment. As far as we know, this is the first paper that describes SaaS intermediaries in more detail and also identifies the different roles that SaaS intermediaries can play. The contributions of this paper are: (1) the identification and description of SaaS intermediaries for SMEs based on an empirical study and (2) understanding the different roles of SaaS intermediaries, in particular a more basic role based on technology orientation and a more value adding role based on customer orientation and strategic alignment.

As this is an explorative study, there are a number of limitations that need to be taken into account. The empirical study has a limited number of intermediary cases and is only based on Australian intermediaries. Moreover, while the cases focussed on SaaS, one of the cases also included cloud offerings. This makes the cases slightly different and less comparable. We propose some directions for future research. Future research can gather data from the SaaS vendor's perspective and SaaS SME consumers' perspectives based upon their experiences with SaaS intermediaries to expand on the interactive nature of intermediary roles. Further, future research can also apply this SaaS-related intermediary knowledge to a cloud service intermediary context.

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ACKNOWLEDGEMENTS

This research was carried out as part of the activities of, and funded by, the Smart Services Cooperative Research Centre (CRC) through the Australian Government's CRC Programme (Department of Innovation, Industry, Science and Research).

An earlier version of this paper was presented at the Australasian Conference on Information Systems (ACIS) 2013 in Melbourne, Australia.