

Innovation through Collaborative Partnerships: Creating the MSN News for iPad App at VanceInfo Technologies

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¹ <http://www.fondation-cigref.org/home/>

² <http://sophia-antipolis.org/>

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Abstract

This teaching case focuses on a collaborative project between a major software and services outsourcing company in China (VanceInfo Technologies) and one of its major Western clients (Microsoft Inc.). VanceInfo and Microsoft had been engaged in a long-term client/vendor relationship since 1997 and the project had been the result of this long-term partnership arrangement. The project was deemed quite successful and innovative, hence it provided an opportunity to determine how collaborative innovation could work between two remote and culturally different supply chain partners and how the lessons from this project could be used to inform SSO providers of ways in which they could move up the value chain to more client-focused value added services.

The case looks in-depth at the actual working practices that enabled the distributed Microsoft/VanceInfo team to produce a market-led innovative product. Agile methods were highly integral to the functioning of those work practices and are quite carefully scrutinised from the point of view of how they were adapted for use in a distributed, cross-cultural environment.

Users of the case study will be asked to formulate answers to several questions geared towards providing general guidelines that SSO providers can follow to achieve similar successful outcomes.

Keywords

Software and services outsourcing, offshoring, China, collaborative innovation, agile methods, innovative capacity

Introduction

"Innovation drives economic progress. For businesses it will mean sustained or improved growth. For consumers, it will mean higher-quality and better-value goods, more efficient services and higher standards of living. To the economy as a whole, innovation is the key to higher productivity."
Andrew Cahn, Chief Executive of UK Trade & Investment, 2006 - 2011

The current global economic crisis has created the imperative for firms to become more innovative in order to remain competitive. Nowhere is this more salient than in the European Union where incentives for growth are seen as a necessary counterbalance to fiscal prudence in order to address member states' financial encumbrances. Emerging economies are fast becoming sources of innovative capacity into which Western countries can tap for complementary expertise. European enterprises have extended, and are starting to extend, networks to emerging economies such as China which offer substantial technological capabilities, skilled work forces and significant market potential. Successful Chinese software and services outsourcing (SSO) companies have grown in size and capabilities at an extraordinary rate in the last decade, and steadily moved up the value chain in terms of the level and differentiation of services offered. In this paper, the term Software and Services Outsourcing (SSO) will be used to cover services ranging from IT application development, maintenance and testing to support for IT-enabled business processes and knowledge-based work. In particular SSO will refer to offshored services delivered through either captive centres, joint ventures or independent third-party consultants. As SSOs move up the value chain, their relationships with their clients are expected to move through maturity stages culminating in higher value-added levels of mutually beneficial partnership referred to in some circles as *collaborative innovation*³.

European and Chinese enterprises need to understand how to collaborate effectively to co-create value and promote innovation on the basis of these mature and long term partnerships. Hence, the objective of this case study was to determine how such collaborative innovation can work in practice between a Western (European) client and a culturally and geographically distant foreign (Chinese) partner in the context of an IT outsourcing project. A project was selected that was deemed successful and innovative and the result of many years of interaction between the European client and the Chinese services supplier. It satisfied several criteria: 1) it involved high-value-added activities, e.g. coming together to solve problems and/or develop customer-centric solutions; 2) it was based on a long-term partnership arrangement; 3) it was carried out on a distributed basis, i.e. spanning different geographical and time zones. The case study was intended to characterise a successful example of collaborative innovation.

China's Software and Services Outsourcing Market

A recent International Data Corporation (IDC) report indicates that China's offshore software development industry was worth USD 4.12 billion in 2011, an increase of 22.8% over the previous year⁴. IDC expects this growth to continue at a CAGR of 25.3%, with the majority increase to come from North America and Europe. According to the China Council of International Investment Promotion (CCIIIP), the top 10 IT services outsourcing companies in China reported revenues of USD1.4 billion in 2010, an increase of 33% from 2009. Companies listed in the top 10 index include hiSoft Technology International Ltd, VancelInfo Technologies Ltd.⁵, Neusoft Corporation, iSoftStone Information Technology Group, among others. The main non-domestic clients of Chinese offshore software outsourcing providers are the US and EU (around 30%) and Japan and Korea (around 20%). The full range of governance models operate in this industry, viz., Chinese-owned independent 3rd party providers, joint venture foreign-overseas enterprises, captive centres of foreign-owned client organizations and subsidiaries of foreign vendor companies (e.g. Indian service providers operating in China). A significant portion of these services are offered for the Chinese-based foreign multinational corporations (MNCs) such as IBM, Microsoft, Deutsche Bank, etc.

Considerable support is offered by municipal as well as government authorities to assist the growth of this industry. Twenty-one cities in China have been designated as "China outsourcing model cities"

³ See Whitley & Willcocks (2011)

⁴ See <http://www.idc.com/getdoc.jsp?containerId=CN2577404X> for more details

⁵ VancelInfo and hiSoft recently merged to become China's leading software outsourcing provider as measured by revenue and headcount. For more details, please see the [merger press release](#).

which indicates that they have been granted policies and measures to promote and develop their local service outsourcing industries. These include setting up technology parks and the provision of various other financial incentives. Despite the growth of the industry, Chinese SSO's face challenges from more mature competitors. Pressures exist on the Chinese SSO industry similar to those pressures faced by Indian outsourcing vendors once they became well-established. Costs began to rise and therefore Indian contractors needed to compete on a different level, that of higher value added services. A similar trend is occurring in the Chinese SSO industry where costs are rising in the tier 1 cities, such as Shanghai and Beijing and production is moving out to tier 2 cities which are more cost effective. Possible strategies for China in moving up the value chain include: diversifying from low-end service outsourcing to more value-added services; moving away from merely producing IT artefacts to contributing to the innovative potential of these products; and strategically integrating the knowledge/capabilities gained from domestic and offshore outsourcing services to build unique and innovative value propositions that take advantage of the synergies between the two. A recent International Data Corporation (IDC) report on China's offshore software development market⁶ corroborates:

"Companies with deep industry focus, strong onsite delivery capacity, wide service coverage, and continuous innovation will establish a leading position in the increasingly competitive market,"
Joan Mao, senior analyst, Services and Telecommunications, IDC, China, June 2012.

The Company

The selected case study company, VancelInfo Technologies, was founded in 1995 and headquartered in Beijing, China. It became the first Chinese Software and Services Outsourcing (SSO) provider servicing Western clients to become listed on the New York Stock Exchange (NYSE) in 2007 (NYSE:VIT). In the first quarter of 2012, VancelInfo reported net revenues of \$86.1 million (€71.0 million), which represented an increase of 50% over the same quarter in 2011. Employee count worldwide was at 15,693. Revenue distribution by geographical segment amounted to 46.7% for Greater China, 35.2% North America, 12.4% Europe and 3.9% Japan. By industry, or "vertical" market segment, revenue distribution was: Telecoms 36.2%, High Tech 34.9%, BFSI⁷ 16.1% and other⁸ 12.8%. The firm categorizes its services provided or "horizontal" in terms of R&D (research and development, localization and globalization services), Consulting and Solutions (consulting, business intelligence, ERP implementation and industry-specific solutions), Application Management (application development and maintenance [ADM], quality assurance and testing) and Other (business process outsourcing [BPO] and system integration [SI]). Revenue distribution amongst these horizontals was: R&D 50%, Consulting 11.3%, Application Management 34.2%, and Other 3.9%. It is noteworthy that an explicit strategy direction for this company, in moving up the value chain, is to increase its value-added services, hence Consulting services had increased dramatically by 109.1% over the same period in 2011⁹.

Historically, VancelInfo has mainly serviced the High Tech market, particularly, large blue-chip US companies such as IBM and Microsoft, where some of its first projects were initiated. Telecoms has also become a major revenue earner more recently, with several major Chinese Telecoms companies comprising the client base. The new BFSI sector allows VancelInfo to diversify its offerings to locally-owned Chinese banking institutions and multinationals operating in China. Its domestic-foreign market split is thus almost 50:50. This is part of VancelInfo's strategy to grow the Chinese local market and become a major player in the Asia-Pacific Region. New initiatives such as VancelInfo Hong Kong and VancelInfo Australia are also part of this strategic move. As yet, VancelInfo's expansion into Europe is mostly confined to business in the UK, although there are efforts to raise its profile in other major European countries.

One of VancelInfo's explicit client-oriented strategies is to form long-term partnerships. On its website¹⁰, VancelInfo posts the following vision statement:

⁶ See <http://www.idc.com/getdoc.jsp?containerId=CN2577404X> for more details

⁷ BFSI is an acronym for "Banking, Financial Services and Insurance"

⁸ Other includes manufacturing, retail, distribution, travel and transportation and public services

⁹ Annual reports in VancelInfo NYSE SEC filings: <http://secfilings.nyse.com/files.php?symbol=VIT>

¹⁰ <http://www.vanceinfo.com/>

“To be a respected global leader in IT consulting, solution and outsourcing services by delivering world-class, innovative and adaptive IT services that advance the business potential of our valued clients”

The vision statement emphasizes its commitment to client relationships and to higher-value added services. It makes the point that to their customers, VancelInfo aims to be an IT partner, not just a service provider. This objective is further highlighted in VancelInfo’s client-focused mission statement, pledging how it envisions its relationship with clients:

“Long-term and trusted partner to our clients by leveraging IT to realize their full potential”

An example of the company’s interest in building strategic partnerships can be seen from their inclusion in the Australian Victoria State Government’s eServices Panel¹¹. This strategic move allows them to influence decisions on vendor selection in service provision for the Victoria State Government. According to a VancelInfo senior executive, this initiative is an opportunity for “cultural and trade exchange”. Another example was given to us in interviews held with the company’s management team. VancelInfo recently created a strategic relationship with a foreign company seeking firstly a suite of IT-based services, including R&D, IT support, localization and secondly, a range of consulting capabilities in pre-sales and post-sales deployment, above and beyond what a service provider would usually offer. Working together with the foreign company VancelInfo set up a Chinese Development Centre (CDC), effectively an offshore development centre dedicated to this foreign client and quickly ramped up resources to about 300 staff, while effecting knowledge and skills transfer from the client’s previous service provider to mobilize and speed the operation. These sorts of initiatives are part of VancelInfo’s strategies to move up the value chain to higher-end value added services, thus differentiating themselves from the increasingly unprofitable lower-end offerings which have become the hallmark of both manufacturing and services outsourcing to China.

“As a general industry trend the cost savings to be had for outsourcing to China will probably become negligible within 5 to 10 years, in favour of emerging destinations such as the Philippines, Vietnam, places like that, and also because of places like India, with the first mover advantage. China’s real value, China’s market segments are going to be in higher value-added services as opposed to the traditional cost savings.” [Marketing Manager, VancelInfo]

VancelInfo sees itself as a global company first and foremost and reflects this in its employee footprint, by hiring multi-cultural staff and working with multi-cultural teams. In our previous research on the cultural dynamics of cross-cultural communication and coordination among SSO providers¹², the team identified VancelInfo as an example of a creolized organization, capable of leveraging multifaceted cultural work practices in achieving more effective relationships with its clients. The following quote illustrates the nature of this multicultural diversity:

“Even within our company, we are very cross cultural, so for example, we have the cloud computing initiative within our company and we are trying to figure out what will be the impact of this industry and how we can leverage from that. We have a very capable consultant based in the Melbourne office, and then we also have another leader in Redmond, he got a PHD from Carnegie Mellon University, and he used to work for Microsoft, so, these two people they are leading our cloud computing initiative in our company, so it’s very cross-cultural and then people from China, from Hong Kong from the US, and Australia all participate in this effort and ideas flow from one region to another region; that’s pretty compelling and powerful.” [Senior Executive, VancelInfo]

Building Innovative Capacity in VancelInfo

As part of its goal to move up the value chain, VancelInfo is developing strategies geared towards building innovative capacity, for example, in creating centres of excellence (COE), which are internal groups organized to maximize knowledge exchange. Creativity is encouraged by hiring people from different discipline backgrounds outside of technology and from different ethnicities and cultural backgrounds. Fostering “collective intelligence¹³” is also another strategy for producing the

¹¹ See VancelInfo’s press release concerning this: <http://www.vancelinfo.com/en/newsroom/PressRelease/20110901>

¹² See Abbott, Zheng, Du & Willcocks (2010)

¹³ Shared or group intelligence emerging from competition and collaboration amongst members of a group who share similar objectives

environment for knowledge creation. Some areas in which the company wishes to create innovation opportunities are in mobile computing, cloud computing and business intelligence. Some COE's are incubation hubs based on building capability in a chosen vertical market, some are horizontal COE's catering for broad based capabilities that can cover several markets or geographies. VancelInfo encourages both "top-down" (company-led) and "bottom-up" (employee-led) incubation opportunities and provides investment funds for good ideas. Another way of building innovative capacity comes from alliances with universities and scholars. VancelInfo needs to do a balancing act, however, between building innovative capacity and moving up the value chain since the latter requires stable, mature processes whilst the former requires agility and flexibility:

"Moving up the value chain does not mean you will be a more innovative company, because moving up the value chain means you need to be more structured... Eventually VancelInfo cannot compete with the small companies with the most innovative ideas; I think as a larger company, we still need to take on innovation work that is suitable to our size,... I think we need to strike the right balance"
[Senior Executive, VancelInfo]

A Collaborative Project

VancelInfo shares a long-standing relationship with Microsoft which spans about 15 years, almost from the start of its SSO operations in China. Microsoft has been one of their biggest clients with about 1000 staff dedicated to their projects; 400 based in the US, 300 in Shanghai and 300 in Beijing. The relationship has allowed VancelInfo to grow and develop its capabilities over time, thus proving to be a beneficial arrangement on both sides. As a long term IT partner to Microsoft, VancelInfo is able to provide solutions to other clients by leveraging its knowledge of the types of services that can be provided through Microsoft products. Thus, for example, cloud computing or business intelligence solutions leveraging Microsoft products, and the knowledge VancelInfo has gained in working with this major client over time, offer a basis for the development of a strategic alliance between client and provider.

The project that we chose to study was the development of a Microsoft-based app¹⁴ for the iPad. The particular app was MSN News for iPad. MSN (originally known as The Microsoft Network) is a portal website which is organised into various channels that provide content and services to its users¹⁵. The project sought to bring this popular web application (ranked 17 in the world¹⁶) to the iPad, notably the tablet PC with the largest market share¹⁷. According to our interviewees at VancelInfo, the development of the MSN News for iPad app is part of MSN's new strategy to concentrate more on the mobile market space. In the online version of MSN (<http://www.msn.com>), channels are selected from a menu representing various accessible web pages, for example, News, Entertainment, Sport, Lifestyle. The iPad app presents all the channels as horizontal sections which the user can slide across the screen to access specific stories for content or service. The image in Figure 1 illustrates. The app was launched in February 2012 and very quickly became the top downloaded app in Apple's iTunes app store.

Microsoft's MSN UK division is responsible for the delivery of all MSN products including the MSN News for iPad app. They service many markets, not just the UK. VancelInfo provides outsourcing services through its Shanghai-based UK Global Market Delivery (GMD) team which supports MSN projects. The Shanghai team is led by a programme delivery manager who is responsible for the delivery of all Microsoft projects based in the Shanghai division and who manages the human resources and bids for additional projects. VancelInfo has had this relationship with MSN for the past 5 to 6 years. MSN is one of the biggest Microsoft clients for VancelInfo's offsite team (VancelInfo MS_OSD¹⁸ Delivery Unit) based in Shanghai and the iPad project is part of a suite of MSN projects serviced there.

<Insert Figure 1 about here>

¹⁴ An app refers to a software application designed specifically for use on mobile devices such as SmartPhones and tablet PCs such as the iPad.

¹⁵ See <http://extras.uk.msn.com/about-msn/> for more information about MSN's channels.

¹⁶ See statistics at <http://www.alexa.com/siteinfo/MSN.com>

¹⁷ Apple's iPad shipments total 58% globally

(<http://www.strategyanalytics.com/default.aspx?mod=pressreleaseviewer&a0=5167>)

¹⁸ Microsoft Online Service Division

There are 5 subteams working on various work streams related to MSN projects. The iPad project alone comprised 3 subteams. The composition of the subteams reflected agile¹⁹ methods as practiced by Microsoft teams. Two subteams consisted of 2 developers (devs), 2 testers and a project manager (PM), while the third team consisted of 3 devs, 3 testers and a PM (see Figure 3). In addition, there were two persons who acted as expert advisors for the 5 MSN subteams and these were called the dev (development) leader and the test leader. The VancelInfo offsite team interacted with the UK MSN delivery team of 6 and only partly with a US UX team (a team responsible for designing the user interface, i.e. for managing the user experience, hence “UX”). The UK team includes 2 developers, 2 testers and the Product Owner (PO). A senior tester and a senior developer are included in this team and act as consultants to resolve issues throughout the progress of the project.

There are some subtle differences between the way in which these teams are organised and the typical organization of a team using agile principles. For example, there is generally no PM role in agile teams. In Shanghai, they are called PMs, but their role is similar to that of a “scrum master,” a person who acts as a liaison between the team and the product owner. Similarly, technical leads such as the Dev Leader and the Test Leader would not be necessary in typical agile teams, since all members would be considered to be of a mature, experienced level and capable of resolving issues amongst themselves without the need for extra guidance. The Dev Leader and Test Leader compensate for the fact that the Shanghai subteams are not made up of such experienced persons, hence they act as technical advisors who support the subteams with advice and solutions of a technical nature. There are no team leaders of these subteams, instead teams are expected to collectively manage their daily work and outputs according to the agile principles. The team structure is illustrated below in Figure 2 and Figure 3.

<Insert Figure 2 about here>

According to our interviewees the structure of the subteams was non-hierarchical. Although there was a person designated as the PM of the team, that person had no responsibility for other members of the team or for any scheduling or planning efforts. These efforts were the shared responsibility of the team members. With respect to reporting lines, the developers would report to the dev leader, the testers would report to the test leader and the PMs would report to the Product Owner (PO) who was based in the MSN UK office in London. The roles and responsibilities of the team members and technical leads are outlined in Table 1.

<Insert Figure 3 about here>

<Insert Table 1 about here>

The Innovation

This project had great potential for innovation due to the many aspects of novelty that it encompassed. To begin with, this was a new development project for the VancelInfo offsite team in contrast to their previous MSN projects which mainly involved maintaining MSN channel products. It was also the first app for the iPad platform that was being developed by MSN. Microsoft has its own operating system, Windows, which operates on various tablet PCs, hence it would seem logical that MSN would develop an app for its own proprietary platform, however, this was not the case, thus creating opportunities in this project for cross platform/cross technology learning to take place. There were also several new technical approaches being incorporated into the project. MSN has developed a technique called Unified Channel Product (UCP) which allows all of its channels to be integrated and manipulated as one unit. This technique was incorporated into the project. The project also involved the use of a new development tool, ASP.NET MVC 3²⁰, which offered developers new learning opportunities to enhance their technical abilities. The UX design was also different, offering a means by which important details about a piece of content could be “lassoed” and more information supplied²¹.

¹⁹ A set of methods based on a philosophy of software development called the agile manifesto (<http://agilemanifesto.org/>)

²⁰ A Microsoft integrated programming environment, for more details see: <http://www.asp.net/mvc/mvc3>

²¹ For further information, see: <http://tech.uk.msn.com/microsoft/msn-for-ipad-how-to-use-the-bing-lasso>

The team members interviewed all agreed, however, that the main innovation in which VancelInfo team members were primarily involved can be described as a technical innovation. The technical innovation enables the portability of this MSN app from OS platform to OS platform without a major rewrite. The innovation is achieved by using a technical device called a “wrap” or “wrapper”. The native code of the application, which may be written in a programming language like Java, provides a wrapper for embedded HTML5 code which is the conduit through which the content will be displayed. The wrapper code can be changed depending on which operating system (OS) is being accessed, thus allowing the entire app to be ported from platform to platform by simply changing the native code wrapper. The interviews also established that a similar technique could be attributed to another Microsoft product (the Bing search engine), however, its use in this context (the iPad app) is unique.

<Insert Figure 4 about here>

The Software Development Process

The VancelInfo offsite team employs software development methodologies closely aligned to the agile methodology. Microsoft is well known for using agile methods in its software development processes and, in particular, for developing methods suited to distributed teams where time and space disruption is part of the development environment²². Agile methods adhere to values and principles outlined in the Agile Manifesto¹⁹ as illustrated in Figure 5 and Table 2 and were developed as a reaction to more process-based, formal, linear models of software development. Table 2 in particular also illustrates the practical implications of these methods for the working environment. For example, constant interaction with end-users is expected and frequent changes to requirements tolerated, aspects which would be absent in traditional software development methods and which require great adaptability and flexibility. The other issue evident from the adoption of agile methods is the emphasis on close communication, making it a method that benefits from collocated teams and proximity to the user. In a distributed environment where there are problems with time zone differences and physical distance, agile methods need to be adapted to suit and sometimes these adaptations are faced with complications of their own. The sections that follow illustrate how the VancelInfo offsite team implemented these agile processes. The sections are organised into recognisable components of agile practices, viz., User Stories, Scrum Meetings, Pair Programming, All-Hands Meetings and Rotations.

<Insert Figure 5 about here>

<Insert Table 2 about here>

User Stories

User stories essentially represent user requirements and are an elicitation and documentation mechanism used in agile methods. In this project, the user stories are captured by the MSN London team through their interaction with a market research group which investigates end-user needs. User stories are then posted into SharePoint²³ for all team members to access. The user story has multiple uses. It not only represents an end-user requirement but is the basis on which planning is done for the project. The planning phase took about 2 weeks out of the 6-month iPad project. Altogether this project consisted of about 100 user stories.

The initial part of the planning process consisted of translating the user stories into the development (dev) approach. During the initial part of the process (user story – dev approach), all members of the 3 subteams have to try to understand all the user stories, which took about one week for the iPad project. The team members will then do some research on the basis of the user stories, discuss the results of this research and feed back the results to the London team where queries will be addressed. The PO collects all queries regarding user stories from all PMs dealing with aspects of the project and provides further resources (e.g. information, techniques) with which the issues can be addressed.

The development approach is initiated by the VancelInfo offsite team and passed on to the MSN London team for comment and further suggestions on improvement. The dev approach part may last

²² See for example: <http://www.mitchlacey.com/resources/distributed-agile-development-at-microsoft-patterns-practices>

²³ SharePoint is a Microsoft product that facilitates, information sharing, collaboration and document management

1 to 2 weeks depending on the complexity of the user stories and has to be approved first before development can begin. User stories are developed in cycles, therefore some decisions need to be made by the VancelInfo offsite team as to which stories to include in the current development cycle and which are to be relegated to another cycle.

After this step, the MSN London team does a rough schedule dividing up the user stories to assign to different teams and working out the time and effort it should take to develop them. The VancelInfo offsite team then decides whether these targets are achievable before confirming the schedule. This stage involves some negotiation and much discussion between the London and Shanghai-based teams; the dev leader is also involved. The outcome of the dev approach stage is a document and a prototype. Features are developed during weekly cycles and meetings are held to monitor the progress.

The timing of “deliverables” depends on the length of time it takes a feature to be developed. Once a feature is developed, it is demo'd to the PO who will decide if it is good enough to be demo'd to the market. The feature is then modified based on market feedback. The development of a feature could take 1 week, if small, or up to one month, if large or complicated. Feedback from the market could be represented in the form of further user stories, and again the decision has to be made whether these user stories would be incorporated into the current development cycle or a subsequent one.

Scrum Meetings

Daily scrum meetings are held. The objective of the scrum meetings is to update the project status and to do further detailed planning. These meetings are held in English or Chinese depending on whether they are held internally or with the London team members. Generally, the morning daily scrum meeting will be held between members of the VancelInfo project teams themselves; sometimes the dev leader will join in. The team updates the PM on what they did the previous day and what they plan to do for that day. An afternoon meeting is also then held between the PMs of the teams and the PO in London.

Weekly meetings are also held. The weekly meeting typically takes place between the key devs and key testers from both the London and Shanghai sides. The purpose of these meetings is primarily to discuss and resolve technical issues. Monthly retrospective meetings are also held on both sides independently, resulting in an exchange of emails on what can be improved in the project.

Pair Programming

After the dev approach is decided, each team comes up with its own plan, breaks down the plan into detailed tasks and then daily work is assigned accordingly. Pair programming occurs after task breakdown. The tasks are designed so that a developer and a tester work together on the solution. Testers query the approaches being used by the developers so that they can improve their work. Testers are crucial to the successful completion of developers' work.

All-hands Meetings

All-hands meetings involve all team members as well as the technical leads. They provide an opportunity for knowledge sharing among team members to occur. The topics for the All-hands meetings could be varied ranging from technical to practical or business oriented, but not necessarily project-related. A topic may be volunteered or assigned to a team member by the technical leaders with the understanding that the team member would research that topic and report the results of their work back to the group for comment and discussion.

Rotations

Team rotation is practiced from both sides but notably Shanghai to London visits are more protracted (3 months at a time) than the London to Shanghai visits (1 week). Shanghai team members are sent on rotation, 2 people every 3 months. Only key people are sent, e.g. senior testers, developers or the PM of a team. Rotations are a mechanism used to lessen the problems of distance and time in a distributed agile process. The main purpose of these rotations is to gain new knowledge and create a bond from face-to-face interaction. For example, a senior developer works with a London team member, utilizing the opportunity for knowledge sharing e.g. working on implementing a feature. Once he/she returns to Shanghai, it is easier to communicate because he/she has learnt the communication

style of the London counterpart. London team visits occur maybe twice a year and are dedicated to guiding the team on certain development techniques and doing project kick-offs.

How Collaboration Occurred in the iPad Project

The team composition and culture, the processes used, the relationship with the London team all combined together to create collaborative work practices. This section looks at how these practices may have created the environment for innovation to emerge.

Encouraging a Participatory Team Culture

The use of agile methods in this project seems to have contributed significantly to developing the opportunities for participation and the space for creativity that helps to make collaboration successful. Interviewees spoke of the “joint effort” of the team leading to their success and the feeling that agile methods may have reduced project risk because everyone was working on some part of the project and problems could be solved more quickly. Using agile methods, there were clear lines of responsibility and specialization of tasks. Compared to other methods, the team felt this encouraged a participatory style in software development rather than the lone coder approach of traditional development methodologies. The fact that everyone participates and everyone shares a sense of responsibility for the success of the project creates a “family” type ethos among the team members, so that team members actively help others in achieving their goals.

“I think it is a big family. Actually we all think that we work for Microsoft and VancelInfo, they have a good relationship and we have collaboration for a few years... It’s just like a family, if someone did something wrong or a mistake, everybody needs to cover those mistakes. We need to resolve those kinds of things, because it’s not only you... the problem is not only for you, but for the whole team”
[Developer]

The scrum meetings allowed all members to voice their opinions on how to improve a technical solution. Younger and more inexperienced members of the team were able to constantly learn from senior members and technical leaders, thus improving themselves while contributing to the project and acquiring a shared sense of identity. The participatory approach and democratic atmosphere provides a safe environment for innovation and motivates team members to be proactive, committed and creative.

Establishing Extensive Communication Methods

Frequent communication is a critical part of the in-built mechanisms of daily scrum meetings in agile methods. Frequent communication helps to overcome issues caused by time and space separation in collaborative relationships. Scrum meetings also help to make the requirements clearer. At the beginning of the project, the user stories were not initially clear, but evolved to be clearer through problem-solving and discussing technical solutions in the scrum meetings.

The difference in time zones (sometimes 8 hours) also presents challenges for the daily meetings. A frequent workaround was to send emails in advance of the scheduled meeting with information about what would be discussed in the meeting so as to facilitate the discussion. Time frames are short under the agile approach and time zone differences would disrupt solving issues quickly, resulting sometimes in day-long delays.

“With those time differences, sometimes there are some issues. If, for example, there is a very urgent issue that it could block us for the whole day, we would ideally like it to be resolved by the London team immediately, but because of the time zone, they cannot. We inform them of these issues and we hope that we get the result once we get back to the office tomorrow, but sometimes, possibly because of some other issue they cannot solve it immediately, then we wait for another day, this is a delay”
[PM]

Only the key team members would communicate with the London team on any frequent basis, e.g. PMs (daily), Dev Leader and Test Leader (weekly). Communication would also occur between the London and Shanghai teams on a team member basis but infrequently and only as a last resort. The London team were considered under-staffed and under pressure hence the Shanghai team would

attempt to resolve issues internally before turning to their UK counterparts. In these instances an email or ping²⁴ could be sent to the UK team member.

The MSN UK GMD team (London and Shanghai) made extensive use of technology to create a sense of constant presence and interchange of information. Physical artefacts are important to the functioning of agile methods in collocated situations. User stories, for example, are frequently presented on physical cards and pinned up on boards to be used in meetings. In the iPad project Microsoft SharePoint was used to share these user stories virtually; they were made available to all teams electronically. Code review was done through a programme called CodeLook, which provides a means of interactively discussing and commenting on code and allows for negotiation; email is incorporated into the programme. Microsoft SharePoint was used to share documents about the project and to schedule meetings. Video teleconferencing (VTC) was used to initiate visual telephone conversations. Microsoft Lync²⁵ allowed for the sharing of PC screens and, in general, creating a virtual space in which communication and interaction could occur at the same time.

“There are so many materials on SharePoint, such as user requirements, development criteria, knowledge sharing, etc. In addition, as a tester, I would upload the testing data to SharePoint and the videos we need to record during the testing. For example, a program error is very hard to describe by words, I would record a video and upload to SharePoint that is more convenient for everyone to watch; this is also because the size limitation of email.” [Tester]

There are inevitably challenges imposed by the distributed nature of the development environment. An important aspect of ensuring efficient communication across time and space was the use of key people as bridges. For example, there were sometimes issues in interpreting the user stories. This necessitated facilitating communication between the Shanghai and London teams. Someone was usually designated to undertake a bridging role, generally, the team PM. The Shanghai team also had no access to end users. This was mediated by the PO acting as a bridge between the developers and the market research team. Team members who did rotation would also act as bridges to the Shanghai team while in London. For example, a team member, while on rotation, would contact the Shanghai office early in the morning, UK time, for updates, then he/she would translate the information to the UK team when they arrived for work later in the day. This bridging role could also be undertaken by a UK team member when there was no active rotation taking place. The Chinese speaking members of the UK team also facilitated communication between the two sites. The technical leads, in addition to their role in resolving technical matters also sometimes acted as communication bridges:

“There is a guy on the London team who did not know the technical aspects of the work and sometimes one of our devs or testers would send an email to this person but it is very technically worded, so maybe they will not understand it well. And they will email back and forth, back and forth, all the time. So sometimes it will happen, that either I or the Dev leader will jump in and intercede to help them to try to understand each other.” [Test Leader]

Building Equality between the London and Shanghai Teams

The interviewees often asserted that they were not just “doing as told” but were active participants in all stages of the software development process as peers with their UK counterparts:

“Although the UK team sends some requirements, we also actually join in the design part. We will send a set of suggestions for the design and talk and discuss and they agree to add the suggestions to the design. We are actually working like a partner team not just a team that accepts the requirements and implements them.” [Dev Leader]

“The team here use the project management methodology called Agile Scrum and with Agile we usually have something called user stories so normally our UK team, they offer us a very simple user story that they share with the Shanghai team, so what we need to do is break it down into an implementable user story. We also analyze the possibility of how we could integrate it into our

²⁴ Pingging is a technique used in the Microsoft Lync product for initiating an instant message conversation with a distant colleague

²⁵ An electronic collaboration platform which incorporates features meant to reduce the distance problem between distributed teams: <http://lync.microsoft.com/en-gb/Overview/Pages/what-is-lync.aspx>

existing system and controls. So they offer us a thing called user story and we help them to make it look good and we then implement it. It's not simply like the UK team told us 'you need to add a button here', it all depends on the Shanghai team how we implement it." [Programme Delivery Manager]

The project would start with a kick off meeting in which team members on both sides would get to know each other. Code reviews were done internally and cross-team by all team members so that team members could improve and learn from each other while achieving their joint targets.

Several artefacts were used as tools for negotiation between the teams. Prototypes were an example of a negotiation mechanism in co-developing the product. At a particular point in carrying out the dev approach, prototypes of features would be built and shared electronically so as to form a basis on which requirements could be clarified. The negotiation between the developers and PO would centre on what constituted an appropriate solution to user story requirements. User stories were also a means for negotiating requirements and meeting users' expectations. There was a process of negotiation over the solutions for the user stories. There was room for the VancelInfo offsite team to put forward suggestions and solutions that were more workable than what was proposed by the PO and London team.

"The PO represents the market position (what the user wants), but we need to represent the technical position to consider the feasibility of implementing this user requirement. For example, if the feasibility of the suggested solution is very poor, we need to consider whether there is another idea that can achieve the same effect. We will provide that information to the PO, and then the PO communicates with the market afterwards so that we still are following the idea from the market but with just slightly a different way of expressing the solution" [Developer]

The team members reported that they very much operated like one big team; the Shanghai team was very much like an extension of the London team. The VancelInfo offsite team outnumbered their London counterparts 20 to 6, hence any special testing or any cover for holiday time was assigned to the Shanghai team to keep the project moving quickly. They often described the ethos of the team as being "like a family". Communication and good project management practices were thought to be consistent from both sides. In Shanghai there were organized team building activities, e.g. visits to a Karaoke club, prizes and awards.

Team rotations meant there were opportunities for members of the team to meet their counterparts on a face-to-face basis. It was noted, however, that in London, unlike in Shanghai, pair programming did not occur with the rotated team member; rather they were encouraged to do code sharing with their UK counterparts when at work in the London office. Pair working was also exclusively a local-based activity not a shared, distributed activity as were the daily scrum meetings between team members.

This one-team ethos, though, needed to be sustainable. In the software development industry, it is not uncommon for staff to move around and change jobs frequently. Disruptions to the team structure would inevitably cause issues since so much was dependent on building the strong team ethos:

"We used to know each other very well, but during the years, especially this year, there's a lot of change in Microsoft, so they have people changing to the new place, they have rotations to other teams and here we also have people leaving and people joining. So we still know them very well on a higher level, the leadership, but for individuals it's not like before, we don't really know them, it's quite impersonal." [Programme Delivery Manager]

Sharing Knowledge and Learning by Doing

Knowledge sharing was key to the development of collaborative practices and the encouragement of knowledge creation. Time zone issues could inhibit learning opportunities therefore team rotations were used for knowledge sharing. Knowledge translation is important because of the time zone issues; the teams need to find creative ways of resolving this.

Virtual spaces were used for sharing information. Online meetings were used to build and share the developing iPad app so that the London team could assess the look and feel as well as the functionalities of features being implemented.

There were many opportunities for knowledge sharing. Training was very much hands-on and “learning by doing”. New team members could learn from the dev leader or from more experienced team members. Knowledge sharing took place in the weekly All-hands meetings. The type of knowledge sought depended on the level attained by the team member; the information could be low-level, e.g., how to produce better code (junior developer) or it could be high-level, e.g., how to manage a team better (PM). At the beginning of the iPad project, the Shanghai team received information on the techniques to be used in the project and did their own research on it while the London team demonstrated by example how the techniques could be used.

“Because this is also very new to our UK Microsoft team, the technology and everything, they actually studied the technology with us together, we did some training, we worked together, we did some small trials just to try to understand all the technology that we are going to use in the project and we also decided to deploy SharePoint for knowledge transfer. So we actually worked together, not involving any new people from other teams or anything like that.” [Programme Delivery Manager]

“Actually, we discuss with our team members if we meet some technical problems and also my UK GMD team has a really good strategy, which is we will have a Dev sync meeting every week and this meeting is a dev all hands meeting, in this meeting we will do some new techniques and share some new experiences and just share our knowledge” [PM]

Formal training also took place for about a month’s duration for new team members, but mentoring and self-directed learning were the norm for developing one’s abilities. A PM could take formal courses such as a project management module online, for example, or a developer could access the Internet, MSN library or Microsoft library in search of material for self-training.

Creating an Open, Adaptive Culture

It was difficult for team members to describe their organisational culture. Interviewees asserted that each VancelInfo department could be described as having their own culture. For the MSN Shanghai team, working closely with the London team meant the Shanghai team adopted a more European culture. Interviewees spoke not of a VancelInfo culture but of a Microsoft culture. Additionally, they work side by side with teams who service Japanese clients and believe that these teams adopt more of a Japanese culture, enacting practices that are difficult to understand because they are culturally different, e.g., singing team songs. Interviewees did not feel that there was one overarching vision statement that motivated all VancelInfo teams; it depended on the team or department with which members were working. As a result of working within the “Microsoft” culture, team members did not feel they were being pushed or pressured; they could decide how long it took to finish a feature, they could decide how they would approach a problem and could voice their opinions. In this manner, the space for innovation was being fostered through the team culture.

“I think possibly for different departments (in VancelInfo) they will have different cultures because we work closely together with the London team, so for us the culture is more like some European work culture, but some other teams work with the Japanese teams, so they will have a very Japanese culture... For us it is comfortable enough, we think that it is kind of not being pushed, we can decide how long we would like to take to finish this feature, we are not just being pushed that ‘you must finish it in one month or one week’ or like that, so we think that it is good for us” [PM]

Organizing for Effectiveness

The teams were organised in flat, non-hierarchical structures with few reporting lines and were self-managing with clear lines of responsibility. PMs were intended to coordinate activities, not to manage individuals. Decision-making, planning and scheduling were shared, collective activities. Timelines were negotiated, not imposed. The PO and the London team acted as advisers and arbiters more than like managers. There was considerable autonomy allowed to the Shanghai team to set their own deadlines and to decide on which features to include in particular development cycles. The role of the technical leaders was also key in sustaining the technical excellence which is an objective of agile methods. The Dev and Test leaders therefore become involved at the beginning of the project in the planning phases, consulting and lending technical expertise to help steer the project.

“From the start, we probably would be involved because the most risk is when the project is starting and we should share our experience and also help them to be aware when the project is going to be

delivered and how it's going to be delivered, like what kind of process we need to make and where there are risks within this project and things like that" [Dev Leader]

"In a scrum team, US Microsoft team, they don't really have a PM role, they have five persons, so each one can cover the other's job, so that's very flexible, but here we cannot hire those higher level persons in the team so we've got persons there who can deliver the work and we've got technical leads who can help provide consulting to the team, so it's kind of like an execution team... but we are still trying to be very agile, very scrum; we find it is very effective especially for those web-based projects, you see lots of change to the scrum, we are organised for those changes" [Programme Delivery Manager]

The flexibility of agile methods also brought issues. For example, quick time frames for completing development tasks (1 – 2 weeks), especially in new development projects, put stress on the team's achievement of their goals. Constant changes to requirements to which agile methods are well suited also put stress on development efforts. Agile methods were not thought by the interviewees to be well-suited for providing maintenance when a product was already online/available, a problem which could lead to overtime work.

The Challenge for SSO Providers

The VancelInfo/Microsoft collaboration on the MSN News for iPad project could be considered a success due to the outcome, i.e., a finished product that met users' needs and was launched successfully in the market place. Due to the innovative aspects of the product, it could also be considered an innovation resulting from a successful collaboration. The level of integration between Microsoft's MSN team and the VancelInfo offshore team was quite high and it was clear to see how they shared goals and objectives equally. It was clear also that such responsibility for a new product design and implementation would not have been given to an SSO provider had their capabilities not been tried and tested for many years by the client and had not some amount of trust been engendered beforehand. It is clear, too, that these types of projects enable SSO providers to move into more value-added services that benefit from closer integration.

For SSO providers, however, the risks of undertaking these types of projects are higher than with traditional, routine, well-defined tasks. They need to ensure sustainable levels of higher capabilities beyond simply delivering on time and within specifications. This entails building and retaining a dependable workforce, which is difficult in an industry where workers are so transient. They need to maintain high levels of trust with their client/counterparts, they need to integrate strategic goals with them and to continuously offer more quality, more resources, more competence and more services to keep their loyalty. Their challenge too, is to create internal innovative capacity and creative thinking while also looking for opportunities to create innovations within client projects. They need to also recognise how their value propositions are changing depending on the client's evolving needs. This sort of landscape for offshoring services is quite different from traditional expectations of this mode of outsourcing and it is unclear if many SSO providers have the skills, vision and wherewithal to pursue such opportunities. In the case of China's SSO providers, however, there may be no other option than to take this path due to the changes taking place in their markets. The challenge may be even more acute to Chinese providers since they also face significant cross-cultural barriers when dealing with Western clients, who are the most likely to demand these more value-added services. Therefore, these companies also have to attend to the active cultivation of cross-cultural strategies when dealing with Western clients to overcome these issues. Clearly, there are multiple considerations that need to be taken by these firms in creating more value-added opportunities for clients.

Questions for Consideration

Responses to the following questions can provide a framework in which these issues can be discussed so as to help resolve some of the contradictory positions that SSOs need to take in order to progress in their services offerings.

1. How was collaborative innovation achieved in this project?
2. Collaborative innovation is all about the co-creation of value in client/vendor projects. Can you explain where value was created in this project and what type of value it was?
3. What key considerations enhanced knowledge sharing and value co-creation both at the organisational and at the project levels?

4. To what extent did agile methods contribute towards the success of the project? Could this project have achieved its outcomes without a specific project ethos being developed?
5. What role does trust play in the development of collaborative practices?
6. How can technology both enhance and hinder a collaborative effort?
7. How could VancelInfo use their enhanced capabilities for leverage in other client projects? What would be their value proposition?
8. In what ways did VancelInfo tackle the cross-cultural barriers they faced? What else could they have done?

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Figures

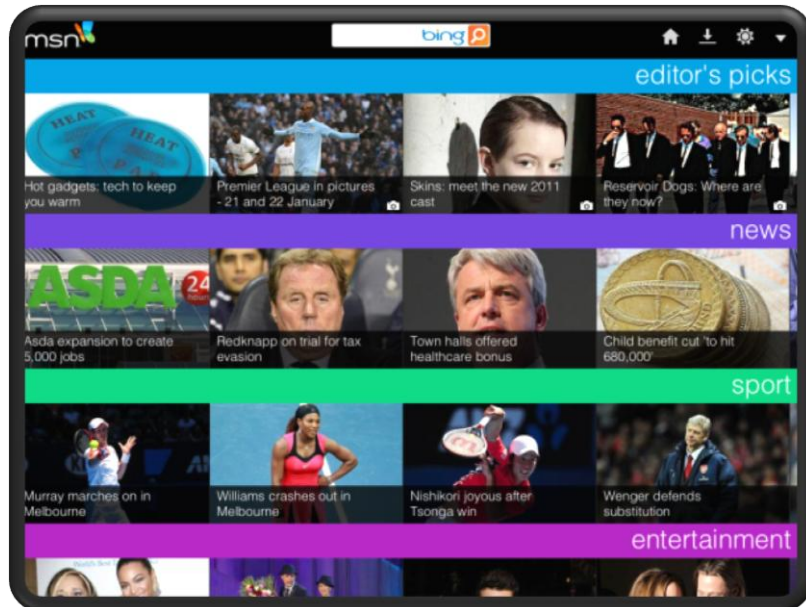


Figure 1. Image of MSN News for iPad app²⁶

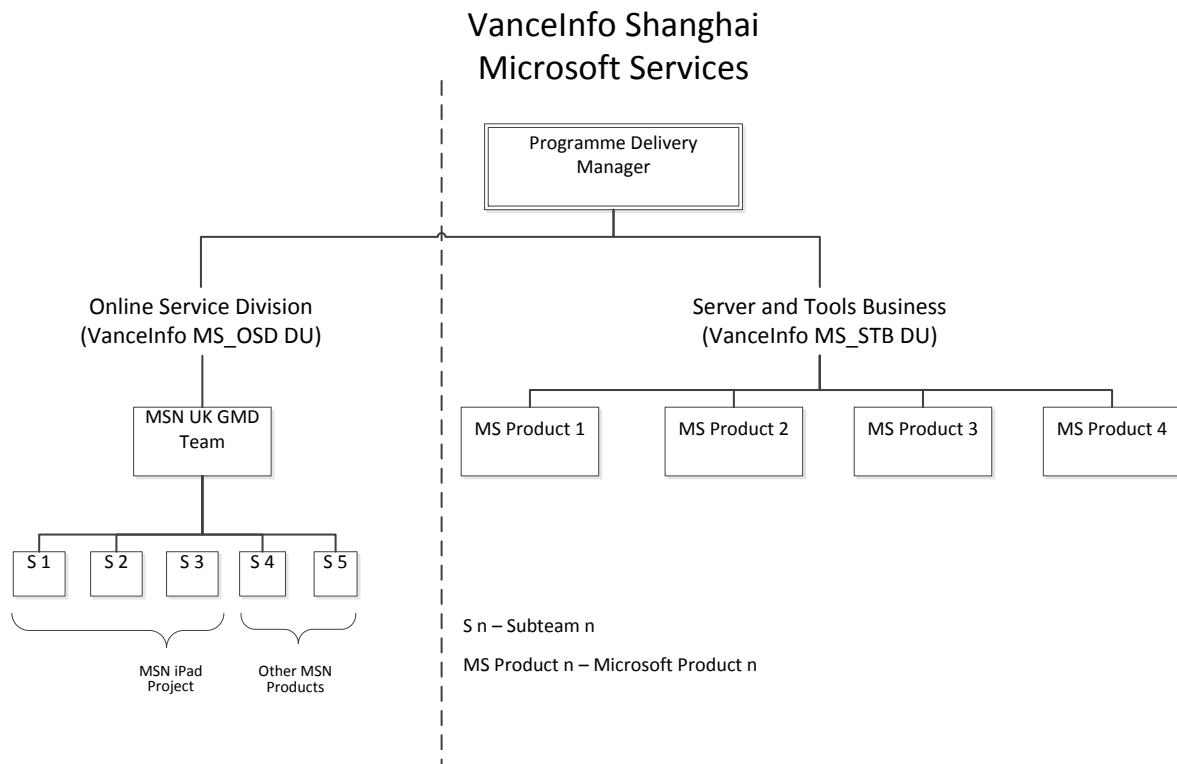


Figure 2. Overall Composition of VancelInfo's Shanghai Support Services for Microsoft

²⁶ Taken from: <http://extras.uk.msn.com/blog/press-centre-blogpost.aspx?post=eec40eb9-0629-4929-bd5f-baabd88b2053>

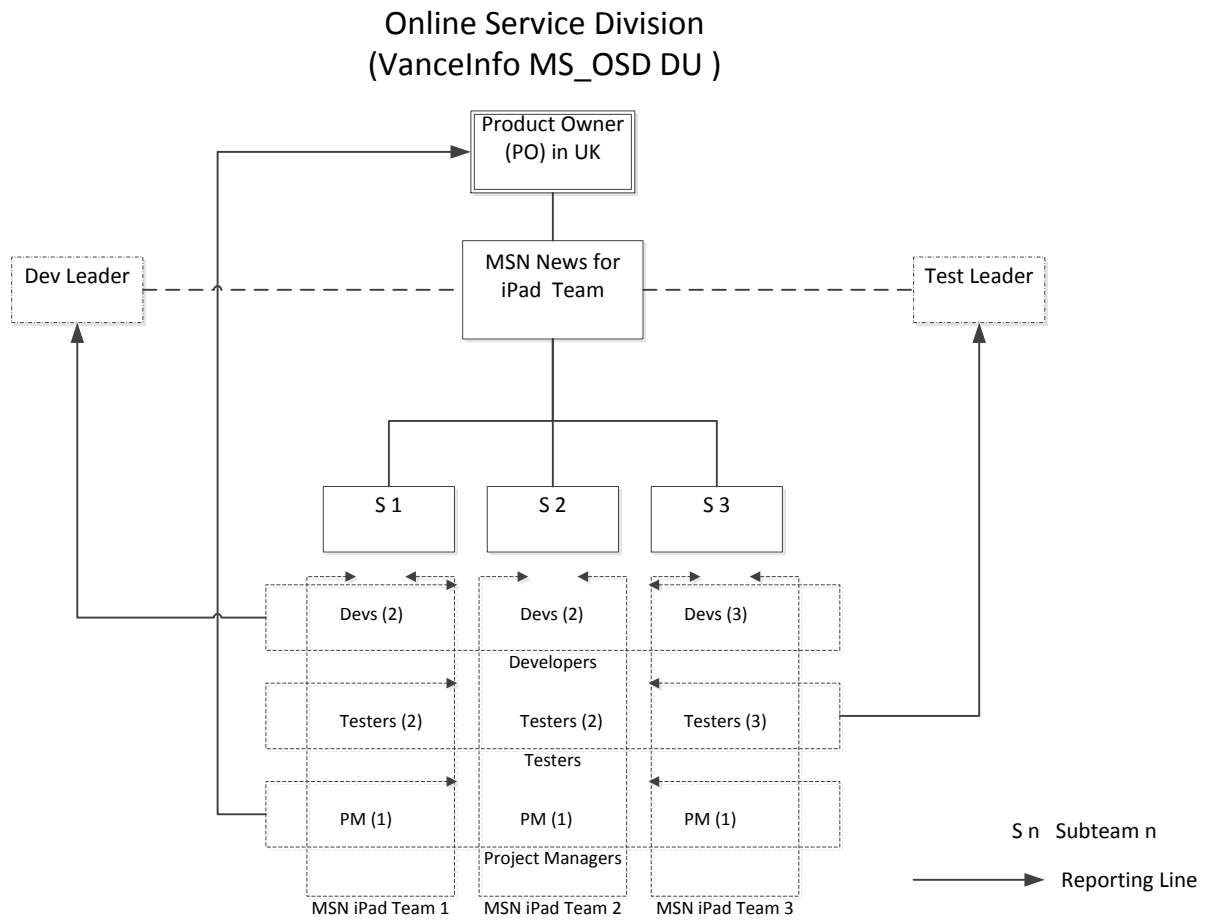


Figure 3. MSN News for iPad Team Structure with Reporting Lines

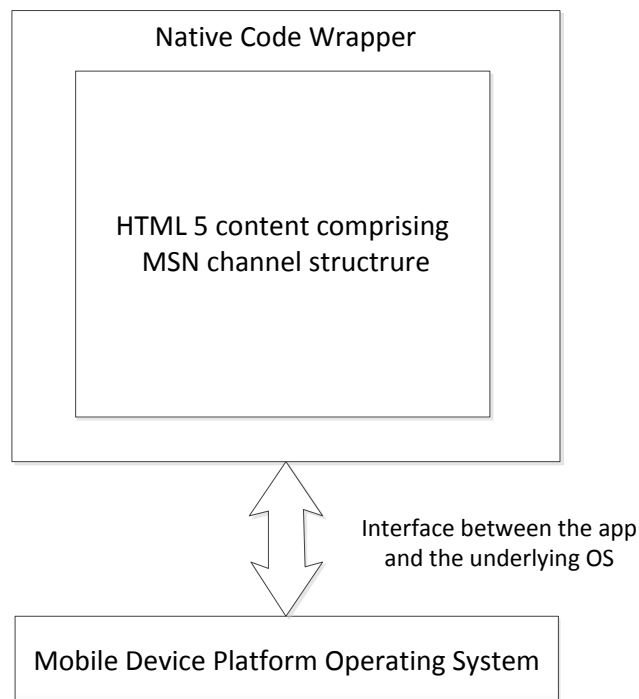


Figure 4. Diagram Showing the Technical Innovation Created for the MSN News for iPad Project

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

Figure 5. Values associated with agile methodologies (taken from the Agile Manifesto¹⁹)

Tables

Table 1. List of Roles and Responsibilities of the MSN News for iPad Team

Role	Responsibility	Reporting line	Skills	Interaction with UK Team
Test Leader	<ul style="list-style-type: none"> Prepares the test environment Provides support at the beginning of the project to review the requirements Provides support throughout the project on technical aspects 	Programme Delivery Manager	Technical/ Communication	Interacts with Senior Tester in UK team
Dev Leader	<ul style="list-style-type: none"> Design the architecture, working with UK team Organizes technical training for the project team members Provides support in the initial planning and scheduling of the project and in reviewing the team's work Assists the team in communicating to UK team issues in the development phase to help meet deadlines 	Programme Delivery Manager	Technical/ Communication	Interacts with Senior Developer in UK team
PM	<ul style="list-style-type: none"> Manages and coordinates projects; Assign tasks Collects queries, problems and issues and raises with the PO 	Product Owner	Mainly communication, may have technical background	Interacts daily with PO and trains with the UK team on project management aspects
Developer	<ul style="list-style-type: none"> Writes and implements code With team suggests solutions to user requirements 	Dev Leader	Mainly technical skills	Senior developers train with the UK team on a rotation basis
Tester	<ul style="list-style-type: none"> Tests the code Discusses with the developer the approaches used Prepares test cases and test data Discusses errors with developer Discovers bugs and repairs them 	Test Leader	Mainly technical skills	Senior testers train with the UK team on a rotation basis

Table 2. Agile principles (from the Agile Manifesto¹⁹) and the implications for work practices

Agile Principles	Implications for Work Practices
1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.	<ul style="list-style-type: none"> - Continuous interaction with the end user - Quick delivery timescales
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.	<ul style="list-style-type: none"> - Accommodating frequent change - Alignment with customer's strategy
3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.	<ul style="list-style-type: none"> - Quick delivery timescales
4. Business people and developers must work together daily throughout the project.	<ul style="list-style-type: none"> - Frequent communication and interaction with technical and non-technical
5. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.	<ul style="list-style-type: none"> - Building an open, trusting team culture
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.	<ul style="list-style-type: none"> - Emphasize face-to-face collocated teams
7. Working software is the primary measure of progress.	<ul style="list-style-type: none"> - Emphasize working products not processes or documentation
8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.	<ul style="list-style-type: none"> - Emphasize long-term commitment
9. Continuous attention to technical excellence and good design enhances agility.	<ul style="list-style-type: none"> - Emphasize learning, knowledge and continuous improvement
10. Simplicity--the art of maximizing the amount of work not done--is essential.	<ul style="list-style-type: none"> - Emphasize simple solutions
11. The best architectures, requirements, and designs emerge from self-organizing teams.	<ul style="list-style-type: none"> - Flat organizational structures, collective decision-making, flexible organizing
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.	<ul style="list-style-type: none"> - Continuous improvement through reflection