

IDENTIFICATION AND MEASUREMENT OF ONLINE COLLABORATION AND PROJECT MANAGEMENT (OCPM) TECHNOLOGY VALUE

A Manufacturer's Perspective: Inscape Corporation, Canada

1. INTRODUCTION

This case study focuses on identification and measurement of the value of online project collaboration and project management (OCPM) technology from the perspective of a manufacturing organization. The case explains a very innovative use of the technology to gain competitive advantage and build and strengthen customer relationships. It covers intangible business benefits and values, at the organizational level only. The following subsections give a brief description of the organization and outline the need, selection, cost, implementation, and use of an OCPM tool as an important part of the organization's marketing strategy.

1.1. Inscape Corporation

Inscape Corporation¹ (Inscape), in business since 1888 (as Office Specialty until 1997 and Inscape since then), is a leading designer and manufacturer of high-performance workplace solutions for today's changing world of work. Headquartered in Holland Landing, Canada, they serve their clients through a network of their own sales personnel, dealers, independent representatives and showrooms across North America. Inscape offers a wide array of product solutions for modern office interiors, including movable walls, post-and-beam architectural products, office systems, storage products, seating and ergonomic work tools. The company engineers its products for longevity, non-obsolescence, aesthetics and technology handling capabilities. The majority of Inscape's customers are located in the United States.

The company is under its current controlling shareholder since the early 80s. Inscape started as a filing solutions provider and grew dramatically through the 1990s. In the early 90s, Inscape became a \$30 million company. Inscape introduced "systems furniture" in the mid 90s and reached \$70 million in systems sales by 2000. Most small steel cabinet manufacturers went out of business in Canada during the 90s due to increased inventory and inefficiencies in their production lines. Inscape implemented a "lean manufacturing"² philosophy in 1985, which aims to eliminate the bottlenecks in its manufacturing plants and to increase the volume of their production. Inscape was well positioned to grow by picking up others' sales and by implementation of the lean manufacturing philosophy. The company went public in 1997.

¹ <http://www.inscapesolutions.com/> www.ourinscape.com

² A philosophy of production that emphasizes the minimization of the amount of all the resources (including time) used in the various activities of the enterprise. It involves identifying and eliminating non-value-adding activities in design, production, supply chain management, and dealing with the customers. Lean producers employ teams of multi-skilled workers at all levels of the organization and use highly flexible, increasingly automated machines to produce volumes of products in potentially enormous variety. The philosophy contains a set of principles and practices to reduce cost through the relentless removal of waste and through the simplification of all manufacturing and support. Principles of lean include zero waiting time, zero inventories, scheduling (internal customer pull instead of push system), batch to flow (cut batch sizes), line balancing, and cutting actual process times.

Doctor of Design Candidate Burcin Becerik prepared this case study under supervision of Professor Spiro N. Pollalis as part of "Identification and Measurement of Online Collaboration and Project Management Systems' Value" study for research purposes and as the basis for class discussion than to illustrate either effective or ineffective handling of an administrative situation. The author would like to thank Atul Bali, Dan Kennedy, Dennis Dyke, Jacquie Spencer, Kerry Newton and Sean Mathurin of Inscape for their assistance in developing this case.

Unfortunately the entire office furniture industry experienced a massive 40% decline in North America from 2001 to 2003. For this industry, business is driven by two factors: corporate profits and increase in white collar workers. There was a reversal in both of those areas in these years, and as a result the \$13 billion office furniture industry shrank to an \$8 billion industry. Inscape lost money for the first time in the 4th quarter of their 2004/5 fiscal year and first three quarters of their 2005/6 fiscal year.

The competition was tight, and Inscape, a \$100 million company, was the smallest company in the field - the next biggest competitor was a billion dollar company. Moreover, their competitors pressured some of the dealers working with Inscape to make a choice between them and Inscape, which resulted in a loss of Inscape's distribution channels. Since they were being squeezed out of distribution, Inscape decided that they needed to reinvent their marketing strategy.

1.1.1. Inscape's traditional marketing strategy

Inscape had adopted a very traditional marketing approach for years, based on a set of sequential activities. Inscape worked with a network of dealers – around 900 in the US – and independent representatives who would identify the opportunities for potential orders around the country. When a dealer approached Inscape with a potential order, Inscape would offer a quotation, which the dealer would then take back to the customer. The customer might ask other manufacturers for a similar quotation, and depending upon various factors, such as price and quality, Inscape might or might not get the order. This model has a success rate of 5% to 10%; and moreover, Inscape had no visibility of the orders nor had the power to communicate directly with the end-users.

1.2. The Need for an OCPM Solution

The need for an OCPM solution was quite different from a traditional implementation and usage of such systems. Being the smallest player in the market took away the advantages a big player might enjoy such as a large sales force or competitive pricing. In order to gain market access with a niche product, Inscape decided to use an OCPM tool to (1) gain market share, (2) build new relationships with end users, and (3) bring visibility to their sales. Atul Bali, a marketing strategist by training and Vice President of Inscape, leading its front –end charge used the following logic, explained in his words: *“Contract furniture is required when there is a project, and the biggest challenge faced by customers, as Inscape found out in a detailed buying behavior study it conducted in 2003, was efficient project management – so why not create a strategy centered around offering on line collaboration for project management and hence get a foot in the door very early in the process and convert that to competitive advantage.”*

1.3. OCPM Technology Selection

Atul Bali's team explored five different OCPM tools available in the Canadian and the US markets. After the market research and technology vendors' demonstrations, Inscape decided to go with eBuild.ca's Collaborative Business Platform³ because it was (1) easy to use and learn, (2) easy to customize and (3) provided the white-labeling option.⁴ Also (4) the tool had excellent functionalities to facilitate design collaboration, proven through vendor's own client base largely in the Canadian construction marketplace. Furthermore, Inscape was able to leverage the

³ <http://www.ebuild.ca/>

⁴ Refers to a service branded in the name of an organization and provided anonymously for the clients of that organization by a third party, in this case eBuild.ca.

vendor's experience in developing an understanding of Collaborative Technologies and the tool needed no additional hardware investment as it is purely web-base and the vendor hosts the solution.

1.4. The Cost

Inscape has an exclusive business partnership agreement with the vendor in their market space, fundamentally a license resell agreement. The cost of a license is \$70US per user, per month. This provides users with unlimited storage space and an unlimited number of projects. In most cases, Inscape passes on this cost to the users of the solution.

1.5. The New OCPM-Enabled Business Strategy

The fundamental reason for Inscape to go ahead with a different marketing approach and out-innovate the competition was the need to increase Inscape's sales. The company had never done two things: (1) marketed to end users directly -they had always depended on channel partners for marketing as well or (2) tried to learn the needs of their clients directly. As a result, they had a poor understanding of the market realities. Subsequently, they conducted a buyer behavior exercise to understand why clients buy furniture. Inscape executives asked, *"When is the furniture required?"* The answer was *"Whenever there is a project."* Therefore, they tried to figure out a way of "getting wind of projects" before their competitors. The second question asked was *"Who are the decision makers and who are the decision influencers?"* As a result of this initial study, they decided that their target should be the real estate brokers, building owners, and project managers, as these parties are the ones who know about a project well before anybody else does and they are at the top of the list of decision makers/influencers.

Inscape started to think about the common difficulties these people faced, and quickly identified project management and communication as a common challenging task, and one that isn't the core competency of most owners or brokers. Therefore, Inscape determined to become a very customer-centric company where customer needs and challenges are the priorities. The question they asked now was *"Can we call an offer through a collaboration tool which we can offer as a service to the community that will enable us to know of any given project earlier than our competitors?"* There is where the whole idea of market collaboration was born.

Inscape would offer the OCPM technology to real estate brokers and project management communities as a new way of managing owners' projects while potentially helping them save time and money. Consequently Inscape white-labeled the OCPM tool and named it ourinscape.com.⁵ (Figure 1) Inscape and the vendor also extended the white-label service offering to other organizations in Inscape's value chain. The vendor provides a direct link between these sites. Inscape started setting up projects and giving access to team members very inexpensively for the project team's internal communication long before the team started to think about furniture.

Later, as part of the launch of this go-to-market strategy, Inscape also offered up to four "test-for-fit" services facilitated through the OCPM solution. In this case, the potential customer of Inscape uploads their base-building drawings to the system, normally through their design house or brokerage house of choice. Inscape works on the fit-ins and sends the drawings back through

⁵ <https://ourinscape.ebuild.ca/>

the OCPM tool to the designer or the brokerage house as the case may be, for the end-user to review. The end users can mark up and discuss the drawings electronically and send them back to Inscape through the OCPM solution. The fact that most end users are not CAD users is never a problem – the vendor provides eReview – an online review and markup tool that works with over 330 file types. While the tool provides a practical way to facilitate this exercise, Inscape learns about the project ahead of time. Also the tool offers a complete and comprehensive audit trail of any information exchange, including online meetings, which are recorded and can be replayed later.

Inscape’s only requirement is to be given an equal chance of being a party to the project with the other furniture manufacturers. If Inscape is not awarded the furniture contract for some reason, they still allow the owner to use the tool for the project. In this case, Inscape creates guest licenses and allows their competitors to work only in that particular project without being able to invite others. Fortunately, Inscape hasn’t had the experience of losing a project to a competitor yet. And the prices they have been able to get the projects at have resulted in better margins to the company, as there is a premium associated with this value-added service.

With the industry growing and their innovative use of the OCPM technology, Inscape is again well positioned. Its sales are growing steadily, as they now have a new approach to market and each collaboration partner has their own relationships they bring to the table.

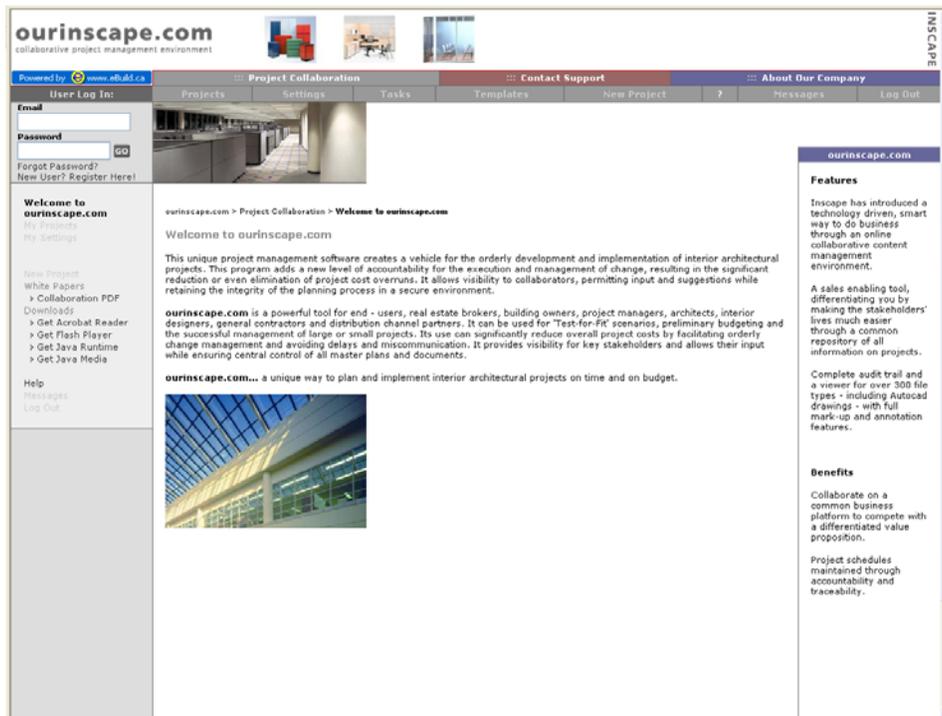


Figure 1. Welcoming page of ourinscape.com

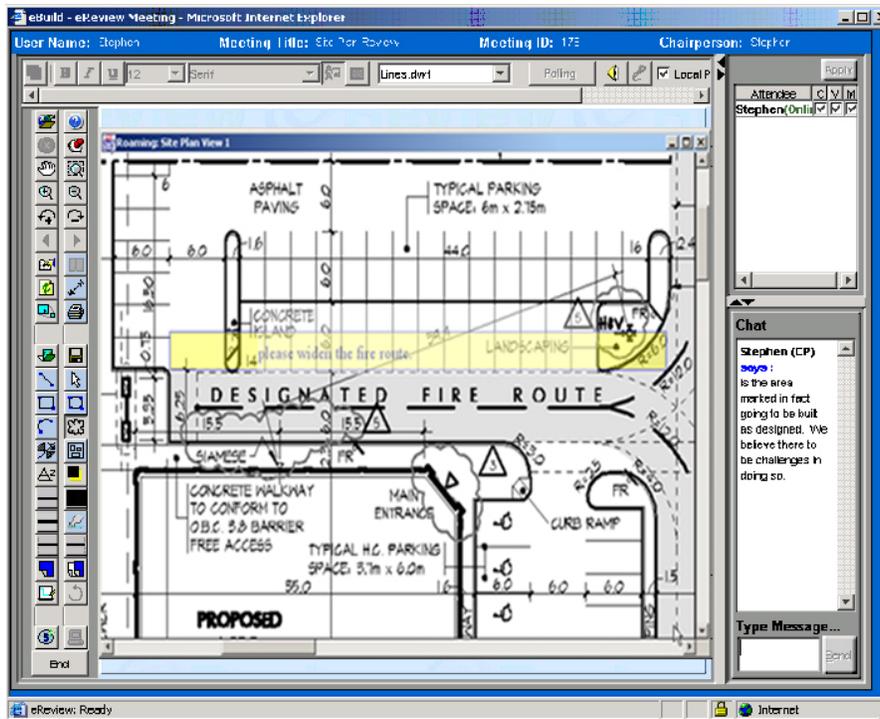


Figure 2. eReview to meet in real time over the Internet

1.6. Implementation and Use of the OCPM System

Inscape started using the OCPM system in April 2004 as a part of their marketing strategy and also internally for collaboration management of their own projects. Through much of the early implementation, the vendor was instrumental in developing Inscape's expertise in the area of collaboration - particularly in the areas of performing product demonstrations for their end-users, mapping process flow – the vendor created a “broker to punch list” series of flowcharts for Inscape - and developing their training curriculum and personnel. As of May 2005, they hold 100 active licenses; half are internally owned by Inscape for their operations, the other half by Inscape's potential customers. Inscape provides implementation and training services for the customers. The condensed 3 hour training course has been a key selling feature. Although Inscape is planning to charge for implementation in the future, they haven't charged their clients yet because the total scale and scope of the projects have not been particularly big nor have the projects lasted for a very long time. As of May 2005, roughly half of Inscape's top dealers are using the tool to approach potential customers. The reason Inscape didn't roll the idea out to all of their dealers was to test the idea and make sure that they can fully support the orders. However, Inscape plans to expand use in the future to its entire dealers list.

There are more than 200 Inscape projects stored in the tool as of May 2005. Inscape uses the tool internally for 3 purposes:

1. *Communicating with dealers and Inscape's sales team:* They have been using the tool as a general tab for the request for quotation (RFQ) approval process. Every time a dealer sends a request, the tool records the communication so that they have a very strong audit trail. In addition, Inscape's staff uploads every response, drawing, or document to the specific folders for the sales team to access and view wherever they are located. Inscape keeps a strong tab of what jobs have been lost and won. This gives them an opportunity

to capture their sales funnel as well as the reasons for winning and losing. They also use the tool for order management and for change management tracking, given its robust audit trail.

2. *Project-specific use*: There are project-specific areas where Inscape designers and other users in a project communicate.
3. *Form and templates repository*: Inscape has created questionnaires and forms, and they all reside in the OCPM solution. The Template feature allows them to formalize their best practices and quickly replicate these for future projects.

A good majority of Inscape's projects are still managed by traditional methods. The larger a project is, the more likely the OCPM tool will be used. The tool has been adopted easily by the internal Inscape team. The design department, customer service, sales representatives in the field, dealers, and owners are among the frequent users of the tool. Once a project is completed, it is archived and removed from users' screens.

2. BENEFIT /VALUE ANALYSIS

When considering the implementation of a new system, it is essential to understand whether you seek benefits in efficiency (tangible), effectiveness (quasi-tangible), overall business performance (intangible), or a particular combination of these. This case study focuses on organizational-level benefits rather than individual project-level benefits. The reason for this is that Inscape uses the tool to enable their marketing strategy, to gain market access and to build and/or strengthen their relationships with customers. Performing the right tasks correctly, staying consistent with the organization's strategy and values, and supporting its goals and objectives have been among Inscape's most important goals in deciding to implement this technology.

Therefore this case study will look at two areas: performance and effectiveness. *Performance (intangible benefits)* is the level of new outputs enabled (doing better things). The nature of modern business is such that, increasingly, senior managers are required to think beyond the direct tactical issues of efficiency and effectiveness, toward more strategic issues. Business performance, in its broadest terms, is a major strategic issue and one that OCPM technology has much to contribute to. A major argument of this case is that OCPM technology's benefits in construction extend beyond the tactical and into strategic business performance improvement. *Effectiveness (quasi-tangible benefits)* is the rate of actual compared to planned outputs (doing the right things) – the ability of a program, project, or work task to produce a specific desired effect or result that can be measured.

There are three main questions for us to ask in order to understand the business of the investors and what they are seeking from their investment: (1) Who are the investors and what values would they like to get out of their OCPM technology investments (potential benefits)? (2) What did they get from their investment in terms of benefits/values (realized benefits)? (3) What would they lose if they didn't implement these systems (lost opportunities)?

-Performance and Effectiveness-

2.1. Potential Benefits

Inscape wanted to use the tool to differentiate itself in the market by approaching clients to understand their needs and challenges in a construction project and provide them an OCPM tool as a solution to manage the project. For itself, Inscape's main goal was to increase sales by gaining market access. They also wanted to build relationships with potential customers and to bring the customers' projects to Inscape's attention. The contract furniture industry is a relationship business (as in fact are most businesses). Most buyers make a decision to buy furniture once every seven to ten years, and it is a major investment. They need to buy from people they can trust. The OCPM tool lends itself to creating strong relationships through the creation of project hierarchy/folder structure with in depth discussions. In addition, Inscape's potential benefits in its own operations would bring efficiency to its internal sales and design development. Everybody in their field was trying to communicate the value, while Inscape wanted to provide a way to create a value.

2.2. Realized Benefits

2.2.1. Increased market access; increased sales (Performance):

The real benefit of the OCPM tool for Inscape has been increased market access. Inscape has used the tool as a sales enabling tool. There were far too many competitors all trying to sell their product value. However, Inscape decided to talk a "services story" first – responding to real needs of the customer in a project management challenge – and then pull in their products. Since they have used this marketing strategy, they have tripled their presence in Toronto alone. Their past sales level of \$800,000 a year has reached \$3 million, with a possibility of more. In Toronto they have quoted seven jobs with this tool, so far losing one and winning three. (In the one they lost, the customer used existing furniture from another office.) In the USA and Canada together, they have been exposed to \$13.2 million of work and have successfully closed \$2.6 million. In the US, they have quoted about 50-55 projects, losing none and winning 11. The rest are still in the process of evaluating furniture; Inscape enters in the picture long before the furniture is normally decided.

2.2.2. Enhanced customer relationships (Performance):

Besides the increased market access, this tool substantially helped Inscape in building long-lasting relationships with their customers. The furniture purchase order usually comes into the picture in the 7th month of a 9-month project; however, Inscape invests 6 months prior to the order to understand its customers' challenges. For example, the project manager for Schawk, Canada (from CBRE, Canada) says, *"We moved Schawk from five offices into one corporate center at 1620 Tech Avenue two weeks ahead of schedule and under budget. Thank you, Inscape for your collaborative effort and for creating a new culture at Schawk with your low panels."*

As construction projects require the collaboration of numerous parties, the OCPM tool is exposed to more projects and so is Inscape, building more relations with owners, subcontracting trades, contractors, etc. Atul Bali explains, *"For example, next week I have been invited by a company who is starting a pretty significant project. They have heard about this tool through their dealer there. I will fly there and meet with thirteen people, each one a stakeholder in the project, who will be part of the project, including the architect, construction manager and*

contractor. The relationships we build are far bigger than we could think about in the absence of ourinscape.com.”

2.2.3. Better negotiation power (Performance):

As the OCPM tool brings several benefits to project teams from the project management standpoint, Inscape’s negotiations for its product have become much easier. Inscape has noticed that the customers don’t usually bargain for a price reduction on the furniture when they are enjoying efficient processes, shorter project cycles, and reduced costs. Again Atul Bali comments, *“The clients sometimes pay \$25,000 rent for a 50,000 sq ft office and are often given incentives for early move-ins. They are not going to bargain for a couple of thousands of reduction on the furniture when they are able to finish their office earlier and save from their rent because of an early move-in.”*

2.2.4. Exposure to the market, access to potential clients (Performance):

By offering this service to the project team, Inscape has gained access to the players down in the supply chain such as real estate brokers, designers, end users and dealers. The tool and the service proposition enable Inscape to meet project stakeholders that they usually have no access to. This is another way to get in front of the people who will buy furniture in the future: they might not require Inscape’s products at the present time, but are potential candidates for the service proposition. It is a big advantage for Inscape to introduce themselves and their products and improve access to potential clients.

2.2.5. Effective communication (Effectiveness):

Besides business-related benefits, Inscape’s in-house team also realized benefits in their operations. The team was able to give quicker responses to revisions in a customer’s project. The tool also enabled all project collaborators to be on the same page. The use of the OCPM system brought accountability to Inscape’s operations and enhanced the trust between collaborators. Usually their AutoCAD files are too large to send by email. So before the implementation of the OCPM tool, they were sending hard copies by FedEx. With the use of the system, the team has become more efficient, with online meetings, discussions, and electronic file transfer. Now, they don’t have to worry about delivery of the packages or time zones. In addition the audit trail brought accountability to the team communication. Now all files are in a centralized location where all parties can go and update the data and find accurate information and the latest versions. Sean Mathurin, team leader of Design and Specification Support at Inscape, says, *“I can see who has done what in the project. So if someone says he has never received the drawing or the specification package from us, I can pull it out and prove that he had a look at it yesterday.”*

2.2.6. Effective sales team (Effectiveness):

Inscape didn’t reduce the number of its sales force but it made them more effective. Their product allows them to get a certain success ratio based upon the needs of their customers. For example, if we assume the success ratio is 10% (they would be considered for ten projects and get one), what happens with this marketing strategy is that now Inscape has access to a hundred projects and gets ten of them with the same success ratio because their product has not changed. According to Inscape, the OCPM tool makes the effort much more useful in the field.

2.3. In the Absence of the OCPM Solution

If Inscape didn't have the system they would lose an opportunity to increase their sales and enhance their relations with their customers. Dan Kennedy, sales analyst at Inscape, says, *"Getting involved in the project sooner, this is one way that we can spark up in the conversation sooner. This is extremely important for our sales."* Internally, if they hadn't implemented the system they would have lost responsiveness to customer needs and requests, the speed and accountability of information transfer as well as the audit trail. Jacquie Spencer, project coordinator, says, *"If we don't have the tool we would go back to extended response times because we will be dealing with overnights and time zones. It can slow down our process seriously."*

2.4. Quasi-tangible Benefits' Ranking

Besides interviews, an electronic survey of quasi-tangible benefits was designed and distributed via email to all interviewees to measure the improvement in a more consistent and less subjective way. The aim of the survey was to uncover as much information as possible and to quantify quasi-tangible benefits of OCPM technology investments. Each respondent received the identical set of benefits, phrased in exactly the same way in order to reduce errors resulting from the recording of responses, and the respondents were free to rank the benefits according to their relevance at responder's own pace. The survey covered several benefits that were stated during the interviews. The responders were asked to rank the benefits 1 through 5 (where 5 is 'very high', 4 is 'high', 3 is 'neutral', 2 is 'low' and 1 is 'very low'). Benefits and values ranked by Inscape case interviewees can be seen in the table below.

Benefits/Values	A*	B*	C*	D*	E*	Ave.	StnDev
Enabled having complete audit trail	5	5	5	5	5	5	0.0
Improved data availability	5	5	4	4	5	4.6	0.5
Improved information version control	4	5	4	4	4	4.2	0.4
Provided accurate and timely information to give valid/accurate decisions	4	4	3	3	5	3.8	0.8
Improved project relationships with strategic partners	2	4	4	4	4	3.6	0.9
Improved information management	4	5	3	3	3	3.6	0.9
Enabled better project/program control	4	4	2	2	5	3.4	1.3
Enhanced working within virtual teams	5	5	1	1	4	3.2	2.0
Improved process automation (RFIs/change orders, automatic updating of master budget, etc.)	3	4	2	2	3	2.8	0.8
Enabled fewer information bottlenecks	4	5	1	1	3	2.8	1.8
Reduced personnel costs due to improved efficiency	3	4	1	1	4	2.6	1.5
Improved idea sharing among team members/within organization	3	3	1	1	3	2.2	1.1

* The names of the respondents are hidden for confidentiality reasons. However, the respondents are managers of Inscape and users of the OCPM solution in Inscape projects. "X" stands for when the question is not relevant or the responder doesn't know the answer.

Enabled quicker response to project status and budget	4	X	3	3	4
Enabled faster reporting and feedback	5	X	3	3	4
Enabled better forecasting and control	4	X	X	X	3
Improved quality of the output	4	X	X	X	3
Reduced errors and omissions	4	X	1	1	4
Minimized project/business risks	2	X	X	X	3
Enabled advance purchase of materials	X	X	X	X	3
Reduced rework/data reentry	X	X	1	1	4
Reduced delivery lead times	X	X	X	X	3
Enabled better inventory management	X	X	X	X	3
Enabled more effective identification and assessment of new suppliers	X	X	X	X	3
Enabled faster launch to market due to faster delivery	X	X	X	X	3
Improved public relations	X	X	X	X	3
Enabled better resource allocation; more effective assembly of project teams	2	X	1	1	4
Improved timely capture of design/construction decisions	X	3	1	1	4

Table 1. Ranking of various benefits/values by Inscape case interviewees

3. FUTURE OPPORTUNITIES

Inscape is introducing and promoting the OCPM tool to its representatives and sales force across the USA. Inscape strongly believes in the benefits of this tool in their business.

4. BENEFIT/VALUE SUMMARY

Tangible, quasi-tangible and intangible benefits of the Inscape case are summarized in the table below. Tangible benefits were not considered in this case as the investor's main goal was to gain quasi-tangible and intangible benefits through their OCPM investment. The electronic survey is used to quantify the quasi-tangible benefits (improvements) by ranking. Four performance (intangible) benefits are observed in this OCPM implementation: increased market access – increased sales, enhanced customer relationships, better negotiation power, exposure to the market - access to potential clients The total cost of the system is \$84,000/year based on \$70US fee per license.

Types of Benefits	Measured Benefits
Tangible	Not considered
Quasi-tangible	Survey: 3.5/5 (12 benefits identified out of 27)
Intangible	Four identified: Increased market access – increased sales, enhanced customer relationships, better negotiation power, exposure to the market - access to potential clients
Cost of the system	\$84,000/year (\$70US per license. Inscape holds around 100 licenses. In most cases, Inscape passes on this cost to the users of the solution)

INTERVIEWEES

- Atul Bali, Executive Vice President, Channel Management, Inscape Corporation, and Officer of the Company, 04/19/2005, 05/19/2005, 06/08/2005
- Dan Kennedy, Sales Analyst, Specification Coordinator, 04/22/2005
- Dennis Dyke, Vice President of Human Resources, Inscape Corporation, 04/22/2005
- Jacquie Spencer, Major Project Coordinator, Inscape Corporation, 04/22/2005
- Kerry Newton, Junior Design Specification Coordinator, Intern Arido, 04/22/2005
- Sean Mathurin, Design Specification, Team Leader, Inscape Corporation, 04/22/2005