



New Product Concept Proposal

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Omphalos

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Executive summary

The market segment served by portable presentation devices represents a narrowly defined target that has traditionally been served by using transparencies and an overhead projector. Prior to the use of overhead projectors people would develop a presentation in a text document or graphics format and then make copies to hand out. The portable computer and LCD projector has allowed the professionals, instructors, and students to communicate with others much more conveniently. PowerPoint slides presented from a notebook computer are now much more common than transparencies developed with a word processor.

The Personal Digital Assistant (PDA) along with supplementary products offer a mobile computing platform that can manage the presentation tasks which have until now required a desktop or notebook computer. Including the solution offered here, there are three companies offering a more compact and lightweight approach to performing a presentation while traveling.

Our solution provides a superset of the competitors' feature set. We take the market segment and combine it with mobile computing. Our device, which is called Omphalos, is a Mobile Docking Platform (MDP) that includes the capability to perform presentations on the go as well as other tasks. The MDP is a docking device for PDAs that includes USB ports for a keyboard, mouse, monitor, printer, hard drive, and network access. It allows users to modify PowerPoint files directly using a PDA with our proprietary software or those offered by third parties such as DataViz.

The MDP serves two distinct functions that emulate the notebook computer. It can connect directly to the LCD projector and allow users to manage the presentations using any of the widely available PDAs on the market. At other times the user can dock the PDA into the MDP and perform typical computing applications such as word processing or presentation modifications.

Our focal group research and target survey indicate there is significant interest in our product proposal. Most participants in our research consider the MDP-PDA combination a paradigm shift versus using the conventional approach of a laptop computer and LCD projector. The added flexibility and functionality provided by our product make the laptop computer heavy and cumbersome by comparison.

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Market Selection

In our previous report, we focused on analyzing the market for mobile presentation devices. Our product concept is to develop a product that can be used to deliver presentations using a mobile computing device – in our case a PDA. The mobile docking platform, MDP, complements the PDA by creating a transport mechanism from the PDA to the LCD projector.

When we looked at the product features of the MDP, we decided that using a PDA to perform presentations and nothing else was limiting. The direct competitors to the MDP allow the user to perform presentations but they are limited to delivering presentations with proprietary software and without the ability to make edits. There are other limitations as discussed in our previous report.

Our initial instincts lead us to propose a device that could be used to not only connect between the LCD projector and the PDA device but also allow the user to make changes to the presentation. However, providing the ability to make changes to presentations would make the PDA more like a computer. Therefore, our proposal in our previous report was to compete against the mobile presentation devices and against the mobile computers such as laptops. Given further consideration it appears the mobile computing platform represents a significant challenge for our company at this time.

Our decision is to focus first solely on serving the mobile presentation market by competing directly with our competitors, Margi and Aver Media. More specifically, the users of the Palm handheld devices are a perfect target market because they are not served by Margi Systems. This is by no means a small market. The projected market for PDAs in 2003 is 10 million units with about 50% of the market share belonging to Palm Inc.

One difficulty with the older Palm devices, Palm III, V, and VII, is that they each have a different connector type. However, given that Palm has changed their platform strategy by creating a line of M series devices that share the same connector, docking device and basic features Omphalos will focus on this new line to minimize the need to support several models.

The capabilities required to support a mobile computing platform (USB interface, memory port, compact flash interface and the ability to edit PowerPoint files) will not be disregarded but reprioritized. This is so the company can focus on the main objective of gaining market share in the mobile presentation market. We believe this strategy is the most prudent given that there are

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significant challenges to developing a product that serves the need to both deliver presentations and act as a surrogate for a laptop computer.

Customer Needs

To begin understanding customer needs, Omphalos conducted a focus group session with eight individuals from various professional backgrounds and age groups. A focus group format was chosen over triadic sorts and conjoint analysis because the proposed product is leading edge technology that has the potential to create a paradigm shift in the current marketplace.

Common attributes of the participants are that they travel either locally (driving distance) or abroad (requires plane flight) for business purposes and deliver presentations on a regular basis. The purpose of the study is two-fold: the first is to be able to develop a list of product features that are deemed important for a portable PDA-based presentation product and the second is to understand the customer decision process that may lead to purchase of such a product. The results from this process are qualitative in nature.

To lead off discussions, the question was posed about the most significant concerns that arise in the process of business travel, particularly when it comes to carrying computing equipment such as a laptop. Not surprisingly, weight was noted as the primary complaint. Although laptops are made relatively lightweight, depending on model, the need to carry all the peripherals precludes any weight advantage the laptop would have as a stand-alone. This complaint was unanimous amongst all participants.

Following weight, size was also indicated as an important consideration. The focus group participants felt that regardless of the weight, if an item were too bulky or inconvenient to carry, they would most likely not bring it along with them on trips, if they had a choice.

Additionally, it was discussed that the primary uses for bringing a laptop are word processing, some spreadsheet work, email, and PowerPoint presentations. The participants considered the last two the most significant reasons why they would bring a laptop with them on a trip.

Further exploring the reasons behind carrying a laptop with the associated complaints of doing so, the participants were asked how they felt if a PDA were available to perform all the necessary basic functions. The respondents felt that the PDA concept would be an appealing solution if the following conditions were met:

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- Presentations are a primary reason why the participants would carry a laptop on business trips; hence, the PDA needs to be able to connect to a LCD project to be use during the presentation.
- The participants felt that they need to be able to edit their PowerPoint files on the PDA in case last minute changes are required.
- Another important requirement suggested is that the PDA needs to be able to handle large presentation files. A majority of the participants indicated that they and their colleagues generally develop a general presentation file on a particular topic that contains up to 100 slides; these slides are then re-order as necessary to suit the purpose of a particular presentation.
- Interfacing with a PDA is considered a bit inconvenient and cumbersome; as such, the participants think that they would be more incline to use a PDA for the application listed above if there were an easy to use method of interfacing with the PDA.

If the above features were met, the focus group participants indicated that they would choose the PDA option over a laptop for their presentation needs both while presenting within their own company facilities and when on travel. Other features that participants suggested are remote control and Internet connectivity.

In regards to interfacing with a PDA, the participants were also asked if they were willing to buy a lot of peripheral devices for this purpose or for meeting the requirements of listed in the previous section. The response was that they would prefer not to have to do so, although they would not object to buying a few key components. Exploring this further, the participants were asked how they felt about the ability to use standard desktop/laptop peripherals to interface with a PDA and if that ability would affect their purchase decision. The result was that the participants strongly prefer the ability to use standard computing equipment and that this would likely increase their willingness to buy for the following reasons:

- Low total cost of ownership
- Existing difficulties to justify potential expenditures for additional peripheral devices for a PDA

To understand the relative importance of the attributes indicated by the participants in the focus group, Omphalos developed a list of attributes, revisited each participant individually, and

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asked them to rank the importance of each attribute. To further supplement this, an additional ten individuals were asked to take this survey. The result of the survey is as follows in the order from most important to least:

- Ability to edit presentations
- Ability to connect to LCD projector
- Ease of use
- Storage space for large presentation files
- Light weight
- Compact form factor
- Ability to connect to standard laptop/desktop peripheral devices
- Internet connectivity

Macro-Positioning

“Omphalos is *the* portable presentation solution. Our Mobile Docking Platform (MDP) gives users computing flexibility and convenience that only laptops can deliver without the extra weight and bulkiness.”

Considering the primary customer concerns, it is apparent that Omphalos should focus on meeting customer presentation needs and communicate how our product solves the current perceive pains for the business traveler who has to perform such functions. Additionally, our product and positioning differentiates Omphalos from our nearest competitors: Margi Systems and Aver Media. The main differentiation comes in that we can deliver a solution that allows the users to make last minute adjustments and be able to handle large PowerPoint presentation files.

Secondary benefits of our MDP product are that customers are able to substitute it for their laptops on business trips when performing functions such as presentation development, word processing, spreadsheet editing, and reading email. However, the market is too broad for Omphalos to focus on all segments at once. A major concern at this point is that Omphalos would have to spend a greater amount of resources to develop and promote the product, which would add to total overall costs and delays in product launch. As such, Omphalos finds it strategically more sound to focus just on the portable presentation market upon launch and leave the secondary benefits to be a “delight benefit factor” for the customer. However, after the initial MDP product launches, Omphalos may consider targeting the product to meet other mobile computing customer need segments.

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Benefits and Features

High Mobility

The MDP will be an extremely compact and lightweight solution as it leverages that PDA form factor and platform. This allows the business traveler such as sales and marketing individuals to travel lighter than they currently can. The compact form factor and modularity of the MDP gives customers flexibility in how they pack and travel without the need to compromise necessary computing functionality.

Ease of Use

The MDP is extremely easy to use. Currently, for the customer to use products from Margi Systems and AverMedia, the customer needs to convert their PowerPoint presentation files to the respective proprietary formats of each solution. By converting the file, the customer loses image quality in any graphics embedded in the PowerPoint file. Additionally, the user of AverMedia and Margi Systems are unable to make last minute changes to their presentation. In order to do so, they would have to edit the original file, reconvert, and retransfer the presentation back onto the competitors' products. As a result, customers would be forced to carry a laptop with them at all times if they anticipate the need to make last minute presentation corrections and edits. Lastly, there is also a size limitation on how big the presentation files can be on the competitors' products.

On Omphalos' product, the customer simply uses the presentation file in its native PowerPoint format. If the file is larger than the available base memory, the customer can simply download the PowerPoint file to a floppy disk or CD-R/W, connect the appropriate USB drive to the MDP and run it directly off the drive. Alternatively, the presentation file can be loaded onto a compact flash card or USB device and simply plugged into the appropriate slot on the MDP. As long as the PowerPoint file is not on a CD-ROM type media, it can be edited on the fly using either the stylus or a USB keyboard/mouse. As a side note, if the customer uses a combination of compact flash medium and CD-ROM, he/she can copy the file from the CD-ROM to the compact flash medium for editing.

Productivity

The MDP offers our customers the benefit of timesavings and efficiency. By using the MDP and a PDA to deliver PowerPoint presentations, the customer saves a great deal of time from having to transfer the slides onto transparencies. Additionally, our customers can use the

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MDP while traveling to create and edit presentations, which would otherwise need to be developed in the office prior to embarking on his/her trip.

Performance

In regards to feature performance, the MDP offers the highest graphics output as compared to our competitors. Additionally, this combined with the ability to use PowerPoint files allows our customer to display their presentation and its embedded graphics in the original intended manner. The SVGA port on the MDP allows the user to connect to a LCD projector or monitor for output.

Convenience & Customization

The combination of modular expandability and flexibility in the MDP delivers a level convenience and customization that our competitors and current PDAs do not offer. Our customers can use any standard USB devices with our MDP to customize their PDA for any range of application use required. As a result, customers can leverage their existing devices or buy only those that are needed for the desired application.

Survey

We have conducted a survey with intent to validate our customers' needs. Based on the information we have gathered from our focus group session, we understand that the most important features for the MDP are high mobility, ease of use, productivity, performance, convenience, and customization. We then constructed our survey based on these attributes and came up with a nineteen-question survey.¹ Our survey includes two parts. The first part is product information and the second part is demographics. We sent our survey to eighty professionals, who are likely to deliver presentations and travel for work. The response rate of the survey was 36.59%.

We drafted the questions based on the specified attributes and our hypothesis of the type of product the target market would like to see developed. The survey included the following product related questions (the exact phrasing and answer choices is shown in exhibit B):

1. How often do you deliver presentations?
2. How often do you use Power Point to create and deliver presentations?
3. What method do you use to deliver presentations?
4. Do you currently own a PDA?
5. What type of PDA do you own?

¹ Exhibit B: A sample of Omphalos survey is attached for your reference.

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6. Do you intend to purchase a PDA in the next six months?
7. How often do you deliver presentations when traveling for business?
8. How often do you travel for business each year?
9. Rank the following attributes in order of importance
10. Please specify features you feel are important
11. If you could use a PDA to deliver presentations, how often would you use it?
12. How often would you use a PDA to deliver presentations vs. a laptop computer?
13. Rank features in order of importance for a PDA-based presentation tool
14. What would you be willing to pay for a MPD (mobile docking platform)?

Our focus is to find out how many people conduct presentations while traveling for business. Moreover, of the ones that conduct presentations, we want to know how many are using Microsoft PowerPoint software to prepare their presentations. This is important because we intend to allow users to edit the presentation files directly on the PDA using the Omphalos MDP.

We also would like to know which method they use to deliver their presentations. Some folks prefer to use an overhead project with transparencies because little can go wrong vs. using a computer. There might be other reasons why they do not use computer-based solutions but this would require an addition survey to determine the actual reasons.

In addition, we would need to know if the users own a PDA. Those that have a PDA, especially a Palm PDA, are the target market for Omphalos. They, most likely, are the early adopters. If they do not own a PDA, do they intend to purchase one in the near future? These might represent the early majority. In fact, having the option to perform a presentation using a PDA device might push them to purchase the PDA sooner than they otherwise would.

Furthermore, we would like to understand if the respondents would prefer to use a PDA device that can deliver presentations instead of carrying a laptop or using some other medium. It turns out this question is important in determining whether there are additional reasons people would prefer a laptop computer over a PDA to deliver a presentation. For instance, if people prefer the laptop because they can also watch a movie on it then the PDA is at a disadvantage. We would also like to understand the customers' preference for product features of the PDA based presentation tool. The criteria for the product features were gathered from our intuition and responses from the focus group.

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The question concerning price (#14 shown above) was performed in a follow-up survey after we realized the price points set by our closest competitors may have biased our impression of what people are willing to pay for a mobile presentation option. The question posed to participants shown in Exhibit D is an attempt to determine their expectations for what a mobile presentation solution should cost. This required two parts since it was necessary to ask what was a reasonable price for a product that allows the use of PDA to perform presentations (our Macro Position) and one that also offers the mobile computing option. The responses from this question will dictate how we position our product versus competitors and what price levels are realistic.

Results

It should be noted that due to the response rate, the percentages discussed in this section will be different from those displayed in Exhibit C. The results show that over 93% of the respondents deliver at least 1-4 presentations a month.² There are 14 % of that deliver presentations more than 8 times a month. Of the total respondents, 87% use Microsoft PowerPoint to create presentations 75% of the time while 19% use PowerPoint to create presentations 100% of the time.

The next question allows the participant to select several or all answers presented. The most common method of delivering presentations is laptop computer. The response rate was 83% for this question. This coincides with our focus group findings that most travelers carry a laptop while going on a business trip. Digital LCD projectors and overhead projector are also very common methods. Their response rate for these choices was 57% and 47% respectively. Transparencies are also common with a response rate of 40%. Other methods of delivering presentations are desktop computer and paper or hard copy. It is understandable that the LCD projector and laptop computer received high ratings. It is likely in all cases that an LCD projector would not be used unless some type of computer is driving it. The same holds true for the overhead projector and transparencies. Overhead projectors have limited usefulness without transparencies to project.

About 60% of the respondents currently own a PDA. Of those respondents who currently own a PDA, 67% of them use Palm and 22% of them use Handspring. Both of these products use the Palm OS. About 48% of the PDA market belongs to Palm yet over two-thirds of the participants said they use a Palm. This result may have occurred for two reasons. First, the people in the survey were professionals who find compatibility important. This compatibility allows them to share contacts and dates from the PDA with other Palm OS users. Second, the group surveyed

² Please refer Exhibit C: Survey Results Summary for details.

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may have one of the first generation of Palm devices that have not yet reached obsolescence. If their PDAs were purchased over 2 years ago, there was limited selection in vendors serving the market at that time. In addition, there are about 40% of the non-PDA users who plan to buy a PDA within the next 6 months. We did not ask which type of PDA they intend to purchase.

Based on the results from the focus group, the most important attributes a presentation device should include are: lightweight, compact form factor, ability to edit presentations, ease of use and digital format. Although it may not have been obvious to the focus group, the digital format is inherent in a computer-based solution. The survey respondents felt that light weight, ability to edit presentation and easy of use are the most important factors of the five listed. These results are shown in Table I. Other features that the respondents felt are important are clarity, easy hookup or start up, compatibility, and effectiveness. These results validate our findings from the focus group session that lightweight and easy of use are the key determinants for purchase.

Survey Summary:

Table I. Attributes importance

| | Most Important | | | ► | Least Important | Response Average |
|------------------------------|----------------|-----|-----|-----|-----------------|------------------|
| Light weight | 37% | 33% | 20% | 10% | 0% | 2.03 |
| Compact Form Factor | 27% | 40% | 17% | 13% | 3% | 2.27 |
| Ability to edit presentation | 57% | 33% | 10% | 0% | 0% | 1.53 |
| Easy of Use | 53% | 33% | 10% | 3% | 0% | 1.63 |
| Digital Format | 21% | 34% | 28% | 10% | 7% | 2.48 |

In response to question 11 in the survey, when asked how likely would the respondents use a PDA to deliver presentations, over 50% of them would *definitely* or *very likely* consider using the product and around 20% of them would *definitely* use the PDA to deliver presentations. When asked how likely would they switch from laptop to PDA presentation, over 40% would *definitely* or *very likely* consider switching. Around 22% would *definitely* switch to PDA presentation. These results are shown in Table II. However, 44% of the respondents were ambivalent as to the choice between the two. The results from our focus group duplicate the results and help to reconfirm our product position.

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Table II. Likelihood of choosing to use a PDA instead of a laptop for delivering PowerPoint presentations

| | |
|----------------|------------------|
| 5 (Definitely) | Response Percent |
| ↓ | 22% |
| | 19% |
| | 44% |
| | 15% |
| 1(Never) | 0% |

Our respondents said that large storage space for presentation files and ability to connect to a digital LCD projector are the most important product features for a PDA-based presentation tool. These are listed with average value of the response for each product feature in Table III. Other features that need to consider are Internet connectivity, ability to connect standard USB devices such as disk drive, mouse, or keyboard and least important is a remote control.

Table III. Product Features

| | Most Important | → | | | Least Important | Response Average |
|--|----------------|-----|-----|-----|-----------------|------------------|
| Large Storage space for presentation files | 62% | 23% | 8% | 4% | 4% | 1.65 |
| Ability to connect to a digital LCD projector | 73% | 27% | 0% | 0% | 0% | 1.27 |
| Internet Connectivity | 31% | 23% | 38% | 8% | 0% | 2.23 |
| Remote Control | 8% | 35% | 35% | 12% | 12% | 2.85 |
| Ability to connect standard USB devices such as disk drive, mouse, or keyboard | 26% | 26% | 33% | 11% | 4% | 2.41 |

In our follow-up question, we asked what price they would be willing to pay for our mobile presentation solution. As mentioned earlier this was a two-part question. We had twelve respondents to this question provide a range of answers. The results are shown in Exhibit E. Although the sample size is not statistically significant, it does appear that respondents are willing to pay a range of prices with some weighting towards the higher end our scale (\$50 to \$200). Based on their responses, the average price for the presentation-only product (part A) is \$127 while the average price for the presentation-mobile computing product (part B) is \$160. As inferred from their comments, there were more people willing to pay a significantly higher price for the presentation-mobile computing product than the single feature product

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Demographics

All of our respondents are over 25 with the majority of them between the ages of 26-30, Table IV. Professionals between the ages of 31- 45 represent 43% of respondents while the remainder are university students. Over 60% of the respondents are female.

In regards to profession demographics, Manager/Executive and marketing professionals represent 43% of the respondents while over 50% of the respondents are in the computer/IT and semiconductor industry. Additionally, more than two-thirds have a total family income above \$80,000.

Table IV. Age group breakdown

| Age | Response Percent |
|-------|------------------|
| < 20 | 0% |
| 20-25 | 0% |
| 26-30 | 47% |
| 31-35 | 20% |
| 36-40 | 10% |
| 41-45 | 13% |
| 46-50 | 10% |
| 50+ | 0% |

Based on the above survey information, we understand that the potential customers are young professionals who are manager/executive or marketing professional and in the computer/IT and semiconductor industry. They are likely to deliver one or more presentations a month. When considering product features, they care for a PDA-based presentation tool that has large storage space for presentation files and ability to connect to a digital LCD project. The tool also needs to be easy to use and provide the ability to edit presentations.

Concept Test

The responses from the survey validate the need to provide an easy to use presentation tool for the frequent business travelers who deliver presentations at least 1-4 times a month. A large percentage, almost 50%, of the sample said that they would consider switching from laptop-based presentations to PDA-based presentations given their needs are met.

Product features and attributes

The following product features and attributes are important to the users:

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1. Ability to connect to a digital LCD projector: This is consistent with our assumption that Omphalos is a portable presentation tool that allows professionals to carry less when they travel on the road.
2. Large storage space for presentations: This validates the assumptions made when we developed the product concept.
3. Light weight: The main goal of this product is to eliminate the needs to carry a heavy and/or bulky laptop when traveling.
4. Ability to edit presentation: One of the key factors we have identified as the reason why business travelers carry laptops is that last minute presentations happen all the time. Business travelers must have the ability to edit the presentation up to the minute before the presentations are being delivered.
5. Ease of use: For many people, connecting a laptop to a LCD projector is quite simple. In addition, the PowerPoint software used to create and deliver the presentation is second nature to most sales and marketing professionals.

Factors Affecting Purchase Decision

The following factors would influence purchase intent of our survey participants:

6. Reliability: When delivering a presentation, the presenters do not have time to test if the product works or not. They need a device that is plug and play compatible with the LCD projector.
7. Compatibility: It is important that the PDA-based presentation device is compatible with the PC desktop that the customers use. A majority of business users use the Microsoft Office suite and PowerPoint to create and deliver presentations. Therefore, the PDA-based presentation device must be compatible with PowerPoint.
8. Cost: We believe that a competitive pricing strategy is essential to the success of the product. Currently, other competitors are charging \$200 a unit for a similar product. Since we are not the first to market, we will need to offer a better product at the same or lower price. Our survey indicates not all customers may be willing to pay as much as \$200 for this device. This is something we will have to consider when it is time to price the product before launch.

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Sales Forecast

We believe that our product has a great potential. As we stated in our earlier report on the Market, Competition, and Customer Assessment, the maturity of the PDA market has driven the need for more business applications that run on PDA devices. In our report, we also estimated the market potential to be between 75,000 and 120,000 units for first year sales. The result from the survey shows that around 22% of the current PDA users will definitely switch to the PDA-based presentation tool if it is available.

To construct a reasonable target market share, we have utilized the A-T-A-R model. We think that we can get 20% awareness for the addressable market of the product. This value was chosen based on our estimate of what the available budget would be and the competitive intensity in the market. Based on the survey results, we think that 22% of the available market will definitely try the product. We believe our product availability percentage could be as high as 50% based on our ability to bring out product to market in high volume through EMS contracts, traditional electronics distribution channels and industry partnerships. Since this is a technology product with a relatively long life cycle, we disregarded sales due to repeat business.

Therefore, the estimated purchase intent of the customers who would actually buy the product is 2.2%.³ Admittedly, the product awareness and product availability values are our best estimates from our perspective yet we believe they are consistent with values that would be expected in a technology startup company.

According to an industry report by eTForecasts (Exhibit A), the PDA market will continue to grow at a rapid rate. However, it will not be growing at the rate of over 50% as in 1999 or 2000. The report suggested that PDA market would level off at a rate of 20% for the next few years and subsequently drop to about ten percent thereafter. We believe that the MDP device will model the growth pattern of the PDA market. Therefore, we conservatively assume that the growth rate is 20% for the first 3 year, and 10% for the next 2 years.

We also assume that our unit price is \$200. This is because two of our closest competitors are pricing their product at this price range. This may be somewhat on the high end of where we can price the product given the responses from survey participants concerning what they would be willing to pay. However, if we price too high, we might not be able to gain enough trails or

³ Market Share = (Product Awareness) (Trial Basis for PDA) (Available Product) = (0.2) (0.22)(0.5) = 0.022.

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sufficient market share. Typically though, price is not the first criteria consumers use when considering a new technology.

Our research shows the US market for PDA devices is about 10 million units. Of this total, 48% of these devices are Palm OS based. We therefore project there is a total addressable market of 5 million units in the US. We will initially target only the US in our sales effort. Based on these factors, we estimate that our sales forecast to be as follow:

Table V: 5 year Sales Forecast

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total |
|---------------------------|---------------|---------------|---------------|---------------|---------------|----------------|
| US PDA market | 10,770,000 | | | | | |
| Worldwide PDA market | 28,490,000 | | | | | |
| Palm based PDA | 48.00% | | | | | |
| Omphalos (Target capture) | 2.20% | | | | | |
| Growth Rate | 20.00% | 20.00% | 20.00% | 10.00% | 10.00% | |
| Total Potential Units | 110,000 | 132,000 | 158,400 | 174,240 | 191,664 | 766,304 |
| Unit Price | \$ 200 | \$ 200 | \$ 200 | \$ 200 | \$ 200 | |
| Total | \$ 22,000,000 | \$ 26,400,000 | \$ 31,680,000 | \$ 34,848,000 | \$ 38,332,800 | \$ 153,260,800 |

As a result, after year 1, we should expect total sales of \$22 million and total potential units sold are around 110,000 units. However, the above sales forecast assume that our product is fully developed and our production capacity will be able to fulfill 50% of the demand at the beginning of year 1. Unfortunately, this is usually not the case. It is not likely that everything will come out as planned during the first year of operation. This is because the development team might need more time to develop the product and the production facility might need to fine-tune the production process. During the second year, it should be possible to provide 50% to 75% of the external demand. By the third year, the business operation will become predictable and we can project the demand more accurately. Hence, we can fulfill 100% of the demand. We should then change the Omphalos target capture to 0.5%, 1% and 2% for years one, two and three respectively in the forecast model to account for Murphy's law.

Therefore, our sales forecast becomes as follow: total sales for Year 1 will be about one-quarter of the previous model. Overall, the total five year sales forecast will be around \$123 million. It is about \$20 million less than the previous model. The revised calculations are shown in Table VI.

Table VI: Re-weighted 5 year Sales Forecast

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total |
|-----------------------------|--------------|---------------|---------------|---------------|---------------|----------------|
| US PDA market | 10,770,000 | | | | | |
| Worldwide PDA market | 28,490,000 | | | | | |
| Palm based PDA | 48.00% | | | | | |
| Omphalos (Target capture) | 2.2% | | | | | |
| Growth Rate | 20.00% | 20.00% | 20.00% | 10.00% | 10.00% | |
| Total Potential Units | 111,000 | 132,000 | 158,400 | 174,240 | 191,664 | 3,766,304 |
| Re-weighting for worst case | 6/13/2002 | 5/13/2002 | 5/13/2002 | 100% | 100% | 100% |
| Actual Available Units | 27,750 | 66,000 | 158,400 | 174,240 | 191,664 | 618,054 |
| Unit Price | \$ 200 | \$ 200 | \$ 200 | \$ 200 | \$ 200 | |
| Total Sales | \$ 5,550,000 | \$ 13,200,000 | \$ 31,680,000 | \$ 34,848,000 | \$ 38,332,800 | \$ 123,610,800 |

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Summary

The peripheral market for PDA devices, which is still in its infancy, should have significant growth as new models of PDAs are introduced with mobile phone and PDA capabilities merge onto a single device. The growth of the PDAs alone will be at least 20% for the next several years based on independent research. The growth of peripheral devices should be much higher given they will be in catch-up mode.

Our focal group research and target survey indicate there is significant interest in our product proposal. Most participants in our research consider the MDP-PDA combination a paradigm shift versus using the conventional approach of a laptop computer and LCD projector. The added flexibility and functionality provided by our product make the laptop computer heavy and cumbersome by comparison.

Our closest competitors in the mobile presentation market, Margi Systems and AverMedia, have defined the paradigm shift in its current form but have not consider the full range of possibilities in the same way that Omphalos has. Margi and AverMedia offer a product that is limited to performing presentations only at a price of \$200. In fact, Margi does not support Palm devices and AverMedia does not even work with PDAs. The Omphalos solution will focus on the mobile presentation solution at a price above \$127 and then add capabilities for full mobile computing, which include editing MS office files, at a price above \$160. Furthermore, Omphalos will initially target the ignored Palm market that currently represents over five million units.

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Exhibit A: PDA Forecast Summary

The PDA market has been on a rapid growth path since the mid 1990s. The growth will continue strongly, but the days of yearly sales doubling is over. The current economic slump has lowered the growth rate substantially in 2001 and future growth is also expected to be lower than in the late 1990s. A summary of the U.S. and worldwide PDA market growth is shown in the next table.

PDA sales surpassed 5.5M units in the USA in 2000 and yearly sales are projected to reach 21M in 2007. U.S. PDA revenue in 2000 reached nearly \$2B and will grow to \$7.6B in 2007. The table includes a PDA comparison with the PC industry. The PDA unit and revenue is expressed as a percentage of the PC market. In 2000, PDA units were at 12% of PC units, which will increase to nearly 37% in 2007. However, in revenue PDAs only reached 2.2% in 2000 and will reach 8% in 2007. This is due to the average PC price being 5X the typical PDA price.

| USA | 1998 | 1999 | 2000 | 2001 | 2003 | 2005 | 2007 |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| PDA Unit Sales (#K) | 1,946 | 3,036 | 5,550 | 6,645 | 10,771 | 15,682 | 21,112 |
| Unit Growth (%) | 78.7 | 56.1 | 82.8 | 19.7 | 25.3 | 19.1 | 15.1 |
| PDA Revenue (\$M) | 802 | 1,183 | 1,991 | 2,275 | 3,778 | 5,680 | 7,590 |
| Revenue Growth (%) | 67.2 | 47.5 | 68.3 | 14.3 | 27.4 | 20.3 | 14.3 |
| PDA AUP (\$) | 412 | 390 | 359 | 342 | 351 | 362 | 359 |
| PDA/PC Sales (%) | 6.49 | 7.78 | 12.04 | 16.08 | 24.01 | 30.70 | 36.85 |
| PDA/PC Revenue (%) | 1.18 | 1.45 | 2.31 | 3.23 | 4.79 | 5.97 | 7.05 |
| Worldwide | | | | | | | |
| PDA Unit Sales (#K) | 4,124 | 6,514 | 12,172 | 16,377 | 28,488 | 43,524 | 61,369 |
| Unit Growth (%) | | 58.0 | 86.9 | 34.5 | 29.3 | 22.0 | 17.8 |
| PDA Revenue (\$M) | 1,715 | 2,512 | 4,443 | 5,797 | 9,724 | 14,413 | 19,631 |
| Revenue Growth (%) | | 46.5 | 76.9 | 30.5 | 26.9 | 20.1 | 15.8 |
| PDA AUP (\$) | 416 | 386 | 365 | 354 | 341 | 331 | 320 |
| PDA/PC Sales (%) | 4.47 | 5.82 | 9.47 | 13.06 | 20.11 | 25.08 | 29.43 |
| PDA/PC Revenue (%) | 0.80 | 1.06 | 1.79 | 2.60 | 4.02 | 4.95 | 5.75 |

Worldwide PC sales topped 12M units in 2000 and are projected to reach 61M devices in 2007 for a compound annual growth rate of 26%. PDA unit sales will grow from 5.8% of PC sales in 2000 to 29.4% of PC sales in 2007. Worldwide PDA revenue will grow from \$4.4B in 2000 to \$19.6B in 2007. Compared to the PC market, PDA revenue will increase from 1.8% of worldwide PC revenue in 2000 to 5.8% in 2007.

Source: http://www.etforecasts.com/products/ES_pdas.htm

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Exhibit B: Omphalos Survey

Omphalos Survey [Exit this survey >>](#)

1. Welcome

Dear friends and colleagues,

This survey will only take 5 minutes to complete!

The purpose of this survey is to get a better understanding of our new product concept, Omphalos. Omphalos is a highly portable presentation device that attaches to the PDA. This product targets the frequent business travelers who conduct presentations on a regular basis. The goal of the product is to eliminate the needs to carry a laptop.

Thank you very much for your time.

Christine, Chuck and Vince
Santa Clara University
MKTG572 - Product Market Planning and Strategy

Next >>

Omphalos Survey [Exit this survey >>](#)

2. General Information

1. How often do you deliver presentations?

| | | | |
|---------------------------|--------------------------|--------------------------|--------------------------|
| More than 8 times a month | 5-8 times a month | 1-4 times a month | Never |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2. How often do you use PowerPoint to create and deliver your presentations? (% of time)

3. Which of the following do you use to deliver your presentations? (Circle all that apply)

- a. Transparencies
- b. Desktop Computer
- c. Laptop
- d. PDA Devices
- e. Overhead Projector
- f. Digital LCD Projector
- Other (please specify)

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4. Do you currently own a PDA?
Yes No

5. If "yes," what type of PDA do you own?

6. If "no," will you buy a PDA within the next 6 months?
Yes No

7. What percent of your business travels require you to deliver presentations?

8. How often do you travel for business each year?

9. Please rank the following attributes in the order of importance for a presentation device: (1 = Most Important, 5=Least Important)

| | Most Important | | | | Least Important |
|---------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Light Weight | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Compact Form Factor | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Ability to edit presentation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Ease of Use | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Digital Format | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

10. Please specify other features not listed that you feel are important:

11. If a PDA could deliver PowerPoint presentations, how likely would you use it to deliver presentations?
5 (Definitely) 4 3 2 1 (Never)

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12. If your answer to Question 11 is "1 (Never)," please skip to Question 14, otherwise please continue with the next question.

How likely would you choose to use a PDA instead of a laptop for delivering PowerPoint presentations?

5 (Definitely) 4 3 2 1 (Never)

13. Please rank the following features in the order of importance to you for a PDA-based Presentation tool:

| | Most Important | | | | Least Important |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Large storage space for presentation files | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Ability to connect to a digital LCD projector | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Internet Connectivity | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Remote Control | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Ability to connect standard USB devices such as disk drive, | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

14. What is your age?

a. <20
 b. 20 - 25
 c. 26 - 30
 d. 31 - 35
 e. 36 - 40
 f. 41 - 45
 g. 46 - 50
 h. 50+

15. Please indicate your gender:

M F

16. Please give the zip code you live in:

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17. What is your occupation?

- a. Engineer
- b. Sales
- c. Clerical
- d. University/College Student
- e. Marketing Professional
- f. Finance/Accountant
- g. Manager/Executive
- h. School Teacher
- i. College Profeseor
- Other (please specify)

18. What industry do you work in?

- a. Consumer Products
- b. Electronics
- c. Semiconductor
- d. Computer/IT
- e. Biotech/Pharma
- f. Financial Services
- g. Academia
- Other (please specify)

Done Internet

19. What is you total family income?

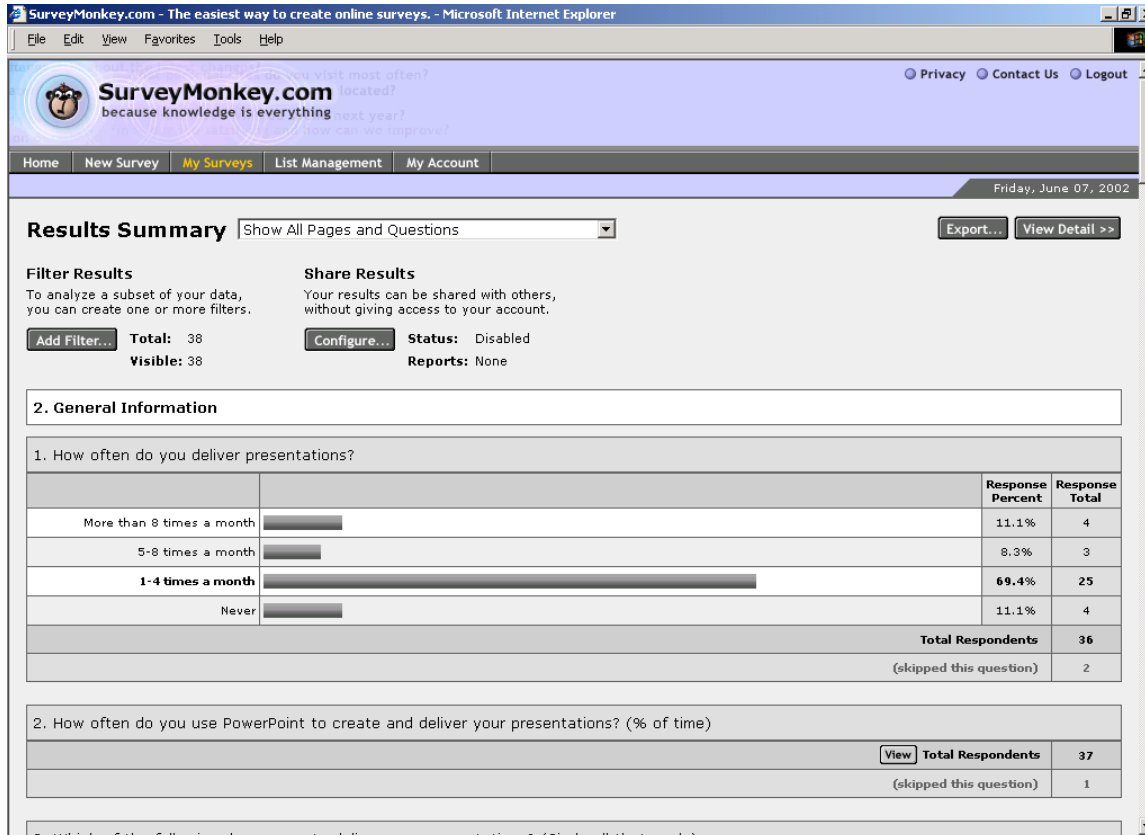
- a. < \$51,000
- b. \$51,000 - \$60,000
- c. \$61,000 - \$70,000
- d. \$71,000 - \$80,000
- e. \$81,000 - \$90,000
- f. \$91,000 - \$100,000
- g. \$101,000 - \$110,000
- h. \$111,000 - \$120,000
- i. \$121,000 - \$130,000
- j. \$130,000+

[<< Prev](#) [Done >>](#)

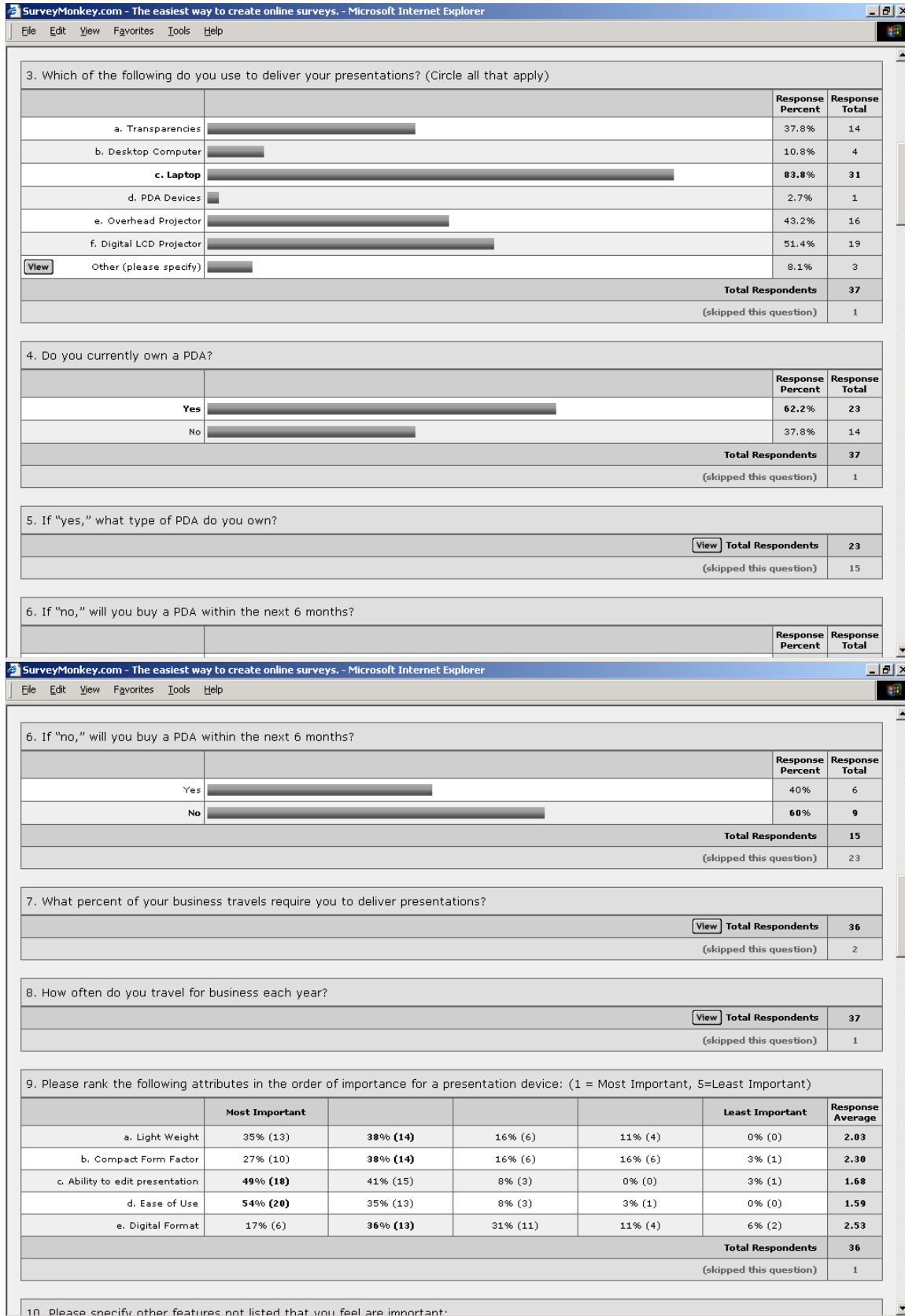
Done Internet

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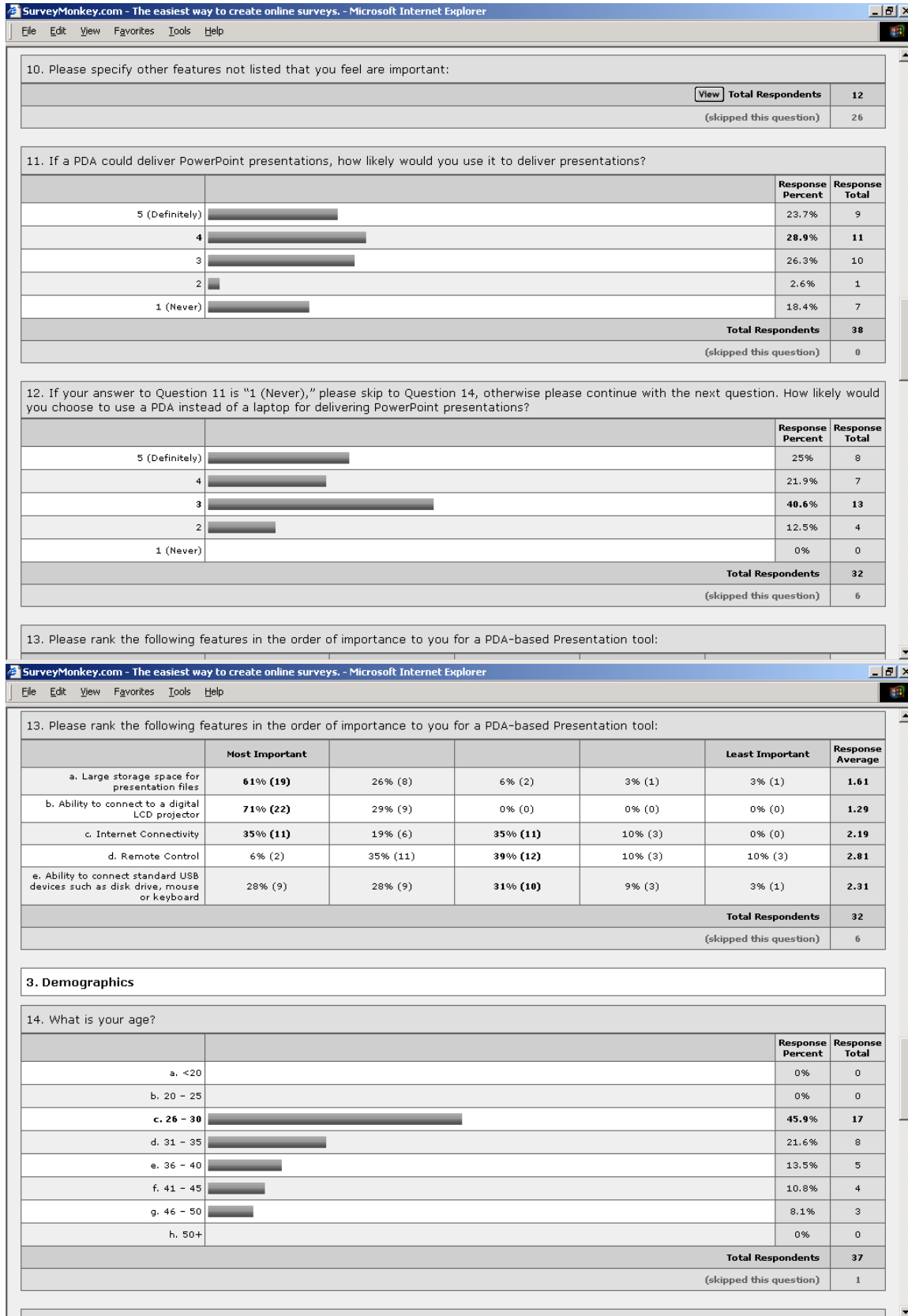
Exhibit C: Omphalos Survey Results



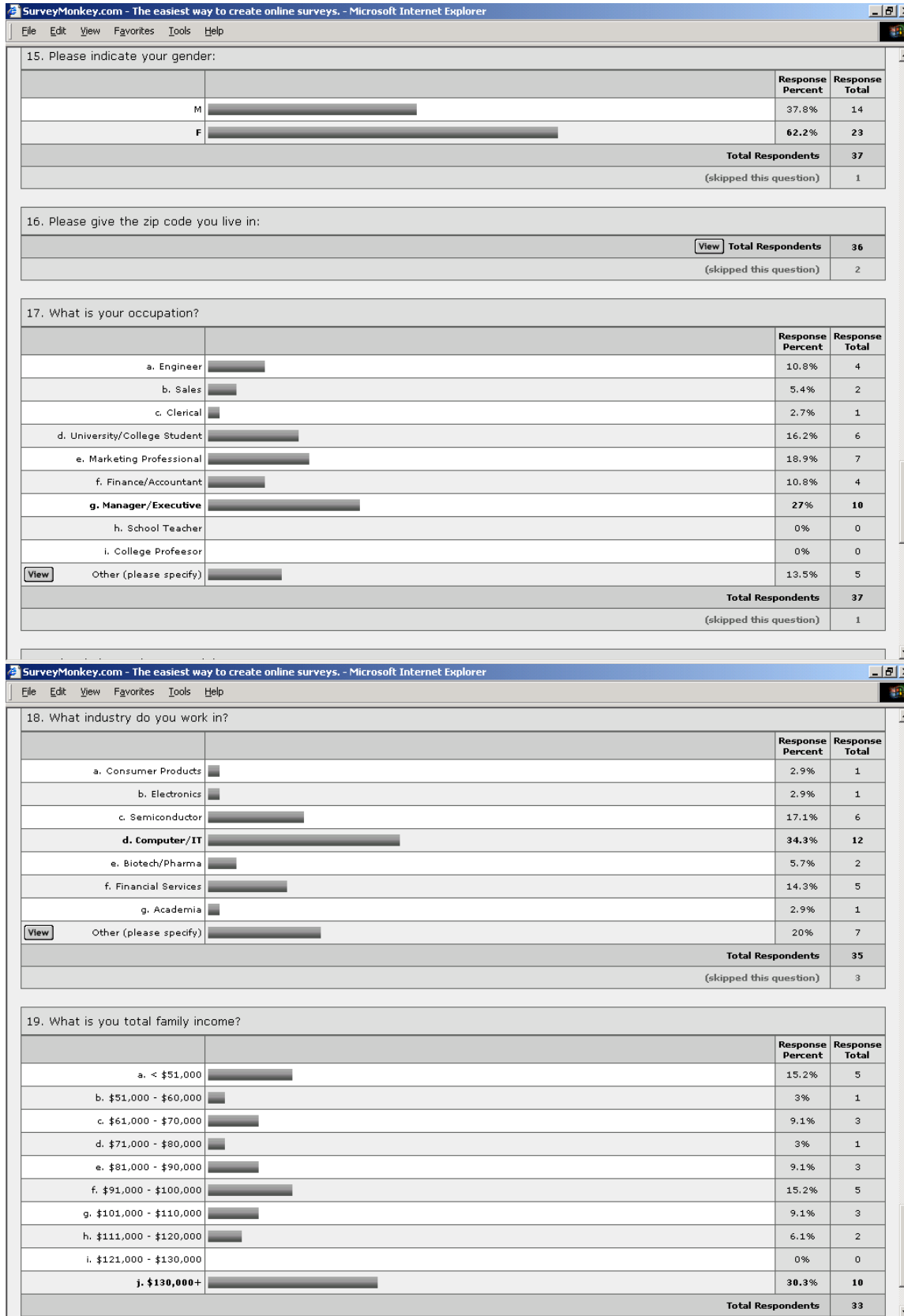
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Appendix D: Follow-Up Survey Concerning Product Price

Part A:

What price would you be willing to pay for a product that will allow your PDA to connect to an LCD projector to perform PowerPoint presentations?

- A: under \$50
- B: \$50 to \$100
- C: \$100 to \$150
- D: \$150 to \$200
- E: over \$200

Part B:

What price would you be willing to pay for a product that will allow your PDA to connect to an LCD projector to perform PowerPoint Presentations AND also could be used as a mobile docking platform to connect your PDA, keyboard, CD ROM drive, disk drive, monitor or other peripheral devices so that the PDA acts as a mobile computer?

- A: under \$50
- B: \$50 to \$100
- C: \$100 to \$150
- D: \$150 to \$200
- E: over \$200

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Appendix E: Follow-Up Survey Results For Product Price

Participant Responses:

Part A: Regarding use of MDP as a way to deliver presentations only

| <u>Number of Responses</u> | <u>Price Range</u> |
|----------------------------|--------------------|
| 2 | Under \$50 |
| 2 | \$50 to \$100 |
| 3 | \$100 to \$150 |
| 2 | \$150 to \$200 |
| 3 | over \$200 |

Average: \$127

Part B: Regarding use of MDP as a way to deliver presentations AND use PDA as computer

| <u>Number of Responses</u> | <u>Price Range</u> |
|----------------------------|--------------------|
| 1 | Under \$50 |
| 1 | \$50 to \$100 |
| 1 | \$100 to \$150 |
| 4 | \$150 to \$200 |
| 5 | over \$200 |

Average: \$160

Comments:

Participant #4:

(I would assume that version B would allow me to edit PowerPoints at the last minute as well, eliminating the need to perform edits on my laptop and then synch them to my Palm. That I would pay extra for.)

Note:

The averages for the responses were calculated using midpoints. If the price was below \$50 then a \$25 value was assigned. If the price was \$50 to \$100 then a \$75 value was assigned. Prices over \$200 were assigned a value of \$200.