Case

Positioning the ConneCtor 2001

By Gary L. Lilien and Katrin Starke



1. Before beginning any case, students should familiarize themselves with the model being used. Marketing Engineering for Excel comes with tutorials that demonstrate the capability of each model. The tutorial can be found under each model within the ME►XL menu after starting Excel. These tutorials are designed to work with our OfficeStar examples which are located in the My Marketing Engineering directory, usually installed in My Documents during software installation.
2. The data required for this case is located in the **My Marketing Engineering** directory (usually located within My Documents):

   ConneCtor PDA 2001 Data (Positioning).xls

Introduction

Netlink Inc. is about to introduce its newly developed handheld device, called the Connector, that marries wireless technology with PDA tools. Netlink Inc. is a joint venture of Conglomerate Inc., a major wireless carrier in the United States, and a domestic PC manufacturer. Conglomerate entered this venture not only to take a stake in a rapidly growing market, but also to attract new customers to its cellular services through Connector and similar products to be developed by Netlink.

The Connector, model version 10L, would be Netlink's first major product introduction since the company was formed. While Netlink's management believes in Connector's potential, they are still unclear of how to best position and target their baby to ensure a successful launch.

Background

Wireless is in! But wireless technology is also still in its infancy state, and currently there is a lot of confusion in the marketplace about the wireless value proposition. Companies are simultaneously trying to determine and to affect the exact form of wireless technology the consumer wants. The race is on between telecommunication companies such as AT&T and Nokia, as well as PDA and computer manufacturers. Despite Netlink's view that Connector would be the first handheld device on the market that allows for truly wireless transfer of voice and data, PDAs with similar capabilities, like the Palm VII, are already available or in development.

Palm VII was the first handheld to include an integrated wireless modem. Although many PDAs (including the Palm III and V series) let the user read

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offline e-mail on the road, after having downloaded these messages from the user's home or office PC, models like the Palm VII that come with wireless modems, allow the user to access mail or the Internet from just about anywhere. Since the Palm VII's introduction, other wireless handheld devices and peripherals have been entering the market (such as the RIM Blackberry and the OmniSky Minstrel modem for the Palm V). Currently, however, this type of wireless access is not without severe limitations: 1) wireless access is only available in certain service areas, 2) there are only limited wireless applications available so far (i.e., one cannot just go to any web page and expect to be able to view it, instead you are limited to certain bundled sites), 3) connection is often slow, 4) it does not come cheap due to the necessity of monthly service plans. Given these disadvantages, most PDA users seem to be hesitant to go wireless, as they rarely need to stay connected 24-7.

Netlink hopes that with the introduction of its Connector wireless access will rise above mere geek appeal. The planned Connector 10L model will have the following features:

- True wireless access, i.e., instant voice and data transfer capabilities at any time (including use as a cellular phone, e-mail, etc.)
- Voice recording and software for voice recognition
- Monochrome, backlit monitor; for $20 a clip-on can be purchased that attaches to the monitor and magnifies the display

Although Netlink feels that Connector's purchase price is competitive, users will also have to enter a service contract with Conglomerate. According to the current plan it is about $50 a month fee for unlimited data transfers and a still to be set number of minutes of free phone use.

Research Study

Exhibits 1-2 summarize the results of a study on consumers' perceptions of Connector. The study participants were asked to judge a set of eight different handhelds (PDAs and PocketPCs). This competitive set consisted of a prototype of the Connector 10L and of the high-end models of the most popular devices of the PDA market. Exhibits 3A and 3B compare these eight handhelds in detail. The two basic types of handheld, electronic organizers and PocketPCs, are represented. Compaq Ipaq, HP Jornada, and Casio Cassiopeia are PocketPCs. As most PocketPCs, they run Microsoft's Windows for PocketPC and come with many applications, which resemble specked-down versions of the MS Office suite. Their advantages include greater synchronization capabilities between the PDA and the PC, more memory, a greater range of accessories to be added to the devices (e.g., digital cameras, web cams). However, they are generally bulkier, heavier, and more expensive. Moreover, the reliable PalmOS, which is the standard operating system for the rest in the set (and most other handhelds), offers twice as many software applications.

The sampling frame for the study was Connector's target market described as cellular phone users with a need for instant data transfer. Thus random phone interviews were conducted to screen individuals for target market fit. Eventually, 50 people were paid to participate in the study. In addition, a lottery outcome decided which ten study participants would be awarded with the PDA that received their respective highest evaluation. Since Netlink did not anticipate all prospective customers to be sufficiently knowledgeable about the eight different products of the study (including the prototype-status only Connector), all participants were exposed to the all the handhelds and the advertising for them during the study.

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EXERCISES

1. Using the data in Exhibit 1 and the associated perceptual mapping software, describe the two (or, if applicable, three) dimensions underlying the perceptual maps that you generated. Based on these maps, how do people in the market perceive the Connector 10L compared with its competitors?
2. Netlink intends to promote the Connector as a sleek handheld device for people always on the go, which is a better valued alternative to other wireless PDAs in the market, as it supposedly also relieves its owner of the need for an additional cellular phone. Is this a credible claim to the people who participated in the study?
3. Rerun the analysis in question 1, this time including the customer preference data from Exhibit 2. From the resulting (joint-space) map, which attributes are most important in influencing the preferences for these handheld devices? How heterogeneous are the preferences of the study participants? How many meaningful segments are there? What other data would you collect from the subjects with the objective to describe or explain the segments?
4. Are there any changes to the features of Connector model L1 (prototype) that should be considered?
5. To work effectively, Connector's voice recognition program requires the user spend a long time training the software to recognize the individual's pronunciation and intonation. Therefore, the feature was demonstrated to the subjects by a Connector product developer using her own trained machine. Comment.
6. What ongoing research program would you recommend to Netlink to improve its evaluation of its segmentation of the market and positioning of its products?
7. Summarize the advantages and limitations of the software provided for this application.

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Exhibits

Attribute	Compaq IPaq	Casio Cassiopeia	HP Jornada	Handspring Visor Prism	Sony CLIE	Palm V	Palm VII	Connector 10L
Price Value	7.3	7.0	7.1	6.8	5.8	7.1	7.4	4.4
Monitor Quality	5.5	8.3	8.4	7.2	8.7	3.8	4.0	4.0
Memory	6.8	8.2	8.8	4.3	4.2	3.9	4.1	3.3
Data Entry	5.2	5.5	5.6	5.2	4.9	4.4	4.6	7.7
Stylishness	7.8	7.8	7.1	5.7	7.4	6.1	5.9	4.9
Light Weight	8.2	3.7	4.0	6.3	8.3	8.5	6.0	6.5
Internet Capabilities	6.9	6.4	6.1	4.1	5.2	3.6	3.7	2.6
Multimedia	5.6	8.3	8.5	5.8	7.8	5.0	5.2	3.4
Sturdiness	6.4	5.4	5.9	6.5	5.9	6.2	4.7	5.5
Connectivity	7.3	6.1	7.2	6.0	5.9	6.1	7.7	8.5
Software	7.3	7.4	7.8	5.3	5.4	5.4	5.5	3.5
Third Party Support	5.0	4.9	5.1	7.6	7.4	7.6	7.5	6.3
Functionality	7.2	7.0	6.9	7.1	7.0	6.7	5.8	6.6
Expandability	6.4	6.6	6.5	7.7	7.0	4.7	4.7	4.5
Ease Of Use	7.1	7.0	7.2	7.2	7.3	7.1	6.5	6.6
Preference	6.6	6.1	6.2	6.3	4.9	5.6	6.2	5.8

Attribute Description

Price Value:	Cost to benefit assessment
Monitor Quality:	Size, resolution, readability of the monitor, etc. Color (color screens are significantly more expensive than monochrome)
Memory:	Determines the maximal file size of the address list, etc. PalmOS based applications are designed to claim comparatively little memory.
Data Entry:	Ease of data entry via onscreen keyboard entry, additional keyboards, voice recording and recognition
Stylishness:	Attractiveness of the exterior
Light Weight:	Ease of carrying the handheld around
Internet Capabilities:	E-mail, web access, web clippings
Multimedia:	Quality of sound and picture display (MP3 playback, digital camera, games)
Sturdiness:	Does the device appear fragile or robust?
Connectivity:	Reach of and to user in data/voice
Software:	Functionality, usefulness, and variety of software installed on the
Third Party Support:	Extent of availability of useful third party add-on applications
Functionality:	Useful device or incomplete gadget
Expandability:	Ability to turn handheld into a cell phone, digital camera, MP3 player, etc. through modules (e.g., the Visor's "Springboard" expansion slot allows for various peripheral hardware)
Ease Of Use:	Jog dial or simple buttons, easy manual, self-explanatory features, etc.
Preference:	Average preference values of the participants

Exhibit 1: Average perception and preference ratings on a scale from 1 to 9.

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	Compaq IPaq	Casio Cassiopeia	HP Jornada	Handspring Visor Prism	Sony CLIE	Palm V	Palm VII	Connector 10L
1	3	3	8	6	6	5	6	7
2	5	3	8	8	6	6	5	8
3	7	3	9	5	5	5	9	7
4	9	6	9	8	7	5	7	8
5	9	4	8	6	6	4	9	8
6	7	7	8	4	6	5	9	8
7	6	9	7	7	8	4	9	9
8	5	4	8	6	6	6	9	8
9	7	5	8	6	6	3	6	8
10	7	6	6	4	4	6	9	8
11	8	9	7	7	6	5	8	8
12	7	5	8	9	6	4	5	7
13	8	7	6	6	7	4	9	6
14	6	4	7	6	5	4	5	7
15	7	7	5	4	5	6	6	6
16	6	6	8	9	6	4	9	9
17	8	6	9	6	6	5	9	5
18	9	7	9	6	7	6	8	5
19	5	9	5	5	4	5	8	9
20	9	7	9	7	8	3	6	8
21	9	5	8	7	6	4	6	4
22	9	5	8	8	6	5	9	8
23	9	3	7	6	5	7	9	5
24	9	6	8	8	7	6	8	9
25	9	8	5	7	6	3	8	7
26	8	8	9	4	7	5	7	4
27	9	6	9	6	6	6	8	8
28	8	7	8	6	6	6	8	2
29	9	9	8	6	6	6	7	9
30	8	4	7	6	5	4	8	5
31	9	2	7	6	6	6	7	8
32	7	7	6	6	8	3	9	8
33	3	2	8	8	6	5	6	8
34	7	5	9	7	6	3	9	4
35	8	6	8	8	6	4	6	6
36	9	9	7	6	6	7	7	8
37	9	6	6	5	6	5	6	5
38	8	5	9	7	6	6	5	8
39	8	7	6	9	4	5	6	8
40	9	6	7	6	6	4	9	7
41	5	5	7	8	7	5	7	3
42	5	7	8	5	3	6	8	7
43	9	7	8	8	6	6	6	8
44	5	6	8	7	4	5	7	7
45	5	6	8	8	8	6	9	6
46	8	3	8	9	7	5	9	7
47	7	9	8	6	4	5	5	6
48	8	5	8	5	7	7	9	7
49	7	8	8	5	3	6	7	8
50	7	6	8	5	5	4	9	6

Exhibit 2: Detailed data on customer preferences.

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Exhibit 3A: Handheld model versions used in the study.

Product Name	Compaq IPaq 3135 Pocket PC	Casio E125 Pocket PC	HP Jornada 548 Pocket PC	Hand-spring Visor Prism	Sony CLIE PDA SON PEGN 710C	PALM Vx Handheld Organizer USR 3C80401U	PALM VIIx Handheld Organizer USR 3C80501U	NETLINK CONNECTOR 10L
Price	**$349**	**$449**	**$449**	**$399**	**$499**	**$299**	**$199 + Service plan**	**$349 + $50 monthly**
Warranty Labor/ Parts Months	12 / 12	12 / 12	12 / 12	12/12	12/12	12/12	12/12	12/12
Item Dimensions	5.1" x 3.3" x 0.6"	5.1" x 3.3" x 0.8"	5.2" x 3.1" x 0.6"	4.8" x 3.0" x 0.8"	4.7" x 2.8" x 0.7"	4.7" x 3.2" x 0.4"	5.3" x 3.3" x 0.8'	5.6" x 3.1" x 0.6
Weight	5.8 oz.	9.0 oz.	9.1 oz.	6.9 oz	5.6 oz.	4 oz.	6.7 oz.	7.2 oz.
CPU	StrongARM RISC @ 206MHz	NEC VR4121 @ 131MHz	Hitachi SH3 @ 133MHz	Motorola Dragonball @ 33MHz	Motorola Dragonball @ 33MHz	Motorola 68EZ328 @ 20 MHz	Motorola 68EZ328 @ 20 MHz	Motorola Dragonball @ 33MHz
Operating System	Win for Pocket PC	Win for Pocket PC	Win for Pocket PC	Palm OS	Palm OS	Palm OS	Palm OS	Palm OS
Built-In Memory	16 MB	32 MB	32 MB	8 MB	8 MB	8 MB	8 MB	16MB
Color Display	No	Yes	Yes	Yes	Yes	No	No	No
Display Type	240 x 320 Backlit STN Grayscale (15 levels) Semi-Transmis-sive LCD Display	240 x 320 65,536 Colors CSTN Backlit Touch-Screen Display	240 x 320 65,536 Colors CSTN Backlit Touch-Screen Display	160 x 160 x 16-bit color (65,536), Active Matrix LCD	320 x 320 Reflective Color LCD with Front Lights	Enhanced LCD	320 x 240 Backlit Touch-screen Display	320 x 240 Backlit Touchscreen Display
Connection to PC	USB Cable	USB Cable	USB Cradle	USB Cradle	USB Cradle	Serial Cradle	Serial Cradle	USB Cradle
Mac Compatible	No	No	No	Yes	Yes	Yes	Yes	Yes
Modem Included / Modem Option	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	Yes
Keyboard Entry	On-screen, or opt. portable keyboard	On-screen	On-screen, or opt. portable keyboard	On-screen	On-screen, or opt. portable keyboard	On-screen	On-screen	On-screen
Stereo, Built-in Speaker	Yes	Stereo Head Set Only, Yes	Yes	No, but 3rd Party, Yes	Yes	No	No	No
Handwriting Recognition	Yes	Yes	Yes	Yes, Graffiti	Yes, Graffiti	Yes, Graffiti	Yes, Graffiti	Yes, Graffiti
Infrared Data Share	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Voice Recording	Yes	Yes	Yes	No, 3rd Party	No	No	No	Yes
Voice Commands	No	Yes	No	No	No	No	No	Yes
Expansion Slot	Yes	Yes	Yes	Yes	Yes	No	No	No
Audio, MP3 Playback	Yes	Yes	Yes	No, 3rd Party	Yes	No	No	No
Calculator	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Product Name	Compaq IPaq 3135 Pocket PC	Casio E125 Pocket PC	HP Jornada 548 Pocket PC	Hand-spring Visor Prism	Sony CLIE PDA SON PEGN 710C	PALM Vx Handheld Organizer USR 3C80401U	PALM VIIx Handheld Organizer USR 3C80501U	NETLINK CONNECTOR 10L
PIM (Calendar, Reminder Alarms, To Do List, Address)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Spreadsheet, Word Processor	Yes	Yes	Yes	Yes	Yes	No	Yes	No, But Voice Conversion And Editing SW
E-mail Software	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Web Browser				3rd Party		No	No, But Web Clippings From Specific Internet Sites Using Palm Query Applications	No, But Web Clippings From Specific Internet Sites Using Palm Query Applications
Wireless							Yes	YES
Fax Software	No	Yes	No	No	No	No	No	Yes
Batteries Required	950mAh Lithium-Ion Polymer-Included	Lithium-Ion	Lithium-Ion	Lithium Ion Batteries Included, 2 weeks/ 6hours continuous	Internal Lithium-Polymer Recharge-able Battery	Lithium Ion Batteries Included, Up to a month	2 AAA 2-4 weeks	Lithium Ion Batteries Included, 8 hours continuous
Re-chargeable Batteries	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

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Product Name	Compaq IPaq 3135 Pocket PC	Casio E125 Pocket PC	HP Jornada 548 Pocket PC	Hand-spring Visor Prism	Sony CLIE PDA SON PEGN 710C	PALM Vx Handheld Organizer USR 3C80401U	PALM VIIx Handheld Organizer USR 3C80501U	NETLINK CONNECTOR 10L
Available Options & Other Features	PCMCIA/PC Card Sleeve to add PC Card Devices, CF Cards for extra memory 206 MHz Intel Strong Arm 32-Bit Processor, 16MB RAM and 16MB Flash ROM, Mono-chromatic LCD Display(15 level grayscale), Compact Flash Expansion Sleeve, Infrared Port	Digital/ Video Camera, 56k Compact Flash Modem, Portable Keyboard MP3 and Video Playback, Built-in Speaker, Microphone, Serial Port, Lithium-Ion Rechargable Batteries Optional modem required for web browsing and e-mail usage.	56k Compact Modem, 56k IR Modem, USB Sync Cradle/ Cable, Serial Cable, AC Adapter, Car DC Adapter, Leather Case, Stylus Pen MP3 & WMA Playback, USB Connectivity, Compact Flash Type I Card Slot, Audio Speaker & Microphone, Digital Audio Player Compatible	Springboard expansion slot expands with modules like a digital camera, music player, modem and more	GPS and Camera Modules available later this year. PalmOS based handheld with an embedded digital audio player. DataViz Documents to Go software for spread-sheets & word processing Jog Dial Navigator. Picture Gear Pocket application lets you view high resolution images	Integrated Link to Microsoft Outlook; Drag-and-Drop Links to Microsoft Word and Excel; Off-line Web Access with Web Channel Manager from AvantGo Instant "On" with all Buttons; Expand-able with Thou-sands of Third-Party Applica-tions and Periph-erals	Portable Keyboard, Modem, HotSync Cradle, etc. Optional Palm.Net™ Wireless Service required for Web Clipping Application and iMessen-ger™.	GPS later this year, Screen Magnifying Clip Display

Exhibit 3B: Handheld model versions used in the study.

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