
New Product Demand Projection and Pricing Research for Digital Wireless Services

John Watters, Ph.D.
SBC Communications Inc.

Frost & Sullivan Advanced Market Research Summit
April 2003



Overview

- Marketing and Research Objectives
- Survey-based Forecasting Methodology
- Choice Model
- Scenario Simulation
- Lessons for Future New Product Studies (Session Take-Aways)

Background and Objectives

- SBC was interested in assessing the overall business potential of various wireless service offerings and accompanying handsets.
- Choice modeling provided market share, assuming full information, awareness and distribution of a new product.
- Assessor[®] forecast (for a base case scenario) provided a benchmark with which to anchor subsequent choice analysis.
- Specifically, this market research study answered the following questions:
 - What was the potential trial rate for SBC base case?
 - What drove the choice of package and phone?
 - What were the characteristics of the likely triers?

Research Issues

- Customers had to be able to see, touch and know the new phones.
- Wireless phone and plan purchase is involved: pick a phone and pick a price plan. The research needed to mirror that actual purchase decision.
- But don't make it too complicated for the respondent.

Research Method

- Current cellular/wireless subscribers, either SBC or a competitive provider, were invited to take part in the interview. Qualified respondents were those who were:
 - Primarily responsible for selecting a cellular service provider.
 - Able to pass security and past participation screeners.
- The interviews were conducted in person at a central location facility
 - 641 interviews, of about 50 minutes in length, were completed.
- The stimuli for the study included:
 - A technology card that explained digital wireless technology options.
 - A display/shelf set which included approximately ten actual phones and a corresponding features explanation card, a plan card for each provider (five per market), and a calling area map for each provider.
 - A base-case concept description explaining features and plan specifics.

Research Method (cont.)

- The interview incorporated multiple evaluations of wireless service
 - Attitudes toward current wireless service provider
 - Technology overview (including both SBC and competitive information)
 - SBC base case concept evaluation
 - ▶ Attitudinal measures
 - ▶ Intensity of preference against competitive providers
 - ▶ Likes and dislikes
 - Simulated choice of preferred provider, plan and phone type
 - Choice exercise
 - Product diagnostics
 - ▶ Characteristic ratings
 - ▶ Attribute ratings
 - ▶ Attitudinal ratings
 - Demographic and usage profile

Dallas Planogram

Ericsson 788	Nokia 5100	Nokia 6100	Sony 2100	Motorola i1000	Samsung	Motorola i600
Motorola StarTac	Ericsson 688	Nokia 2100	Qualcomm 1920	Qualcomm 2700	Sony Z100	

Southwestern Bell Mobile Plan Card	Southwestern Bell Mobile Calling Area Map	AT&T Wireless Plan Card	AT&T Wireless Calling Area Map	Sprint PCS Plan Card	Sprint PCS Calling Area Map	PrimeCo Plan Card	PrimeCo Calling Area Map	Nextel Plan Card	Nextel Calling Area Map
--	--	-----------------------------------	---	--------------------------------	--	--------------------------	------------------------------------	-------------------------	-----------------------------------

Provider phones should were located close to their corresponding provider cards.

Example Plan Card

Southwestern Bell

	<u>Plan 1</u> <u>(Local)*</u>	<u>Plan 2</u> <u>(Local)*</u>	<u>Plan 3</u> <u>(Local)*</u>	<u>Plan 4</u> <u>(Local)*</u>	<u>Plan 5</u> <u>(Local)*</u>	<u>Plan 6</u> <u>(Local)*</u>	<u>Plan 7</u> <u>(Local)*</u>	<u>Plan 8</u> <u>(Local)*</u>	<u>Plan 9</u> <u>(Local)*</u>	<u>Plan 10</u> <u>(Regional)*</u>	<u>Plan 11</u> <u>(Total US)*</u>
<u>Features</u>											
Monthly Fee	\$19.95	\$30.04	\$46.84	\$66.18	\$99.80	\$133.42	\$167.04	\$200.66	\$234.27	\$45.54	\$161.75
Free Minutes	30	60	120	375	750	1,125	1,500	1,875	2,250	113	1,600
Price per Peak Period Minute (after Free Minutes are used)	\$0.46	\$0.41	\$0.36	\$0.32	\$0.28	\$0.25	\$0.22	\$0.19	\$0.16	\$0.36	\$0.19
Roaming Price per Minute	\$0.59	\$0.52	\$0.47	\$0.41	\$0.36	\$0.32	\$0.28	\$0.24	\$0.21	\$0.36	

* Local is Metropolitan Chicago, Southern Wisconsin, Eastern Indiana

Regional is Metropolitan Chicago, Southern Wisconsin, Eastern Indiana, Illinois, Eastern Missouri

Total US is All 50 states, including Alaska & Hawaii

<u>Equipment</u>	Phone M	Phone O	Phone P	Phone Q	Phone R
	Ericcson DH 688	Ericcson DH 788	Motorola StarTac	Nokia 5120	Nokia 6120
	\$100	\$150	\$200	\$100	\$200

Card 2C

Example Feature Card

Motorola Digital StarTAC Available through: Southwestern Bell Wireless

Dual Mode: Digital/Analog (TDMA/AMPS)

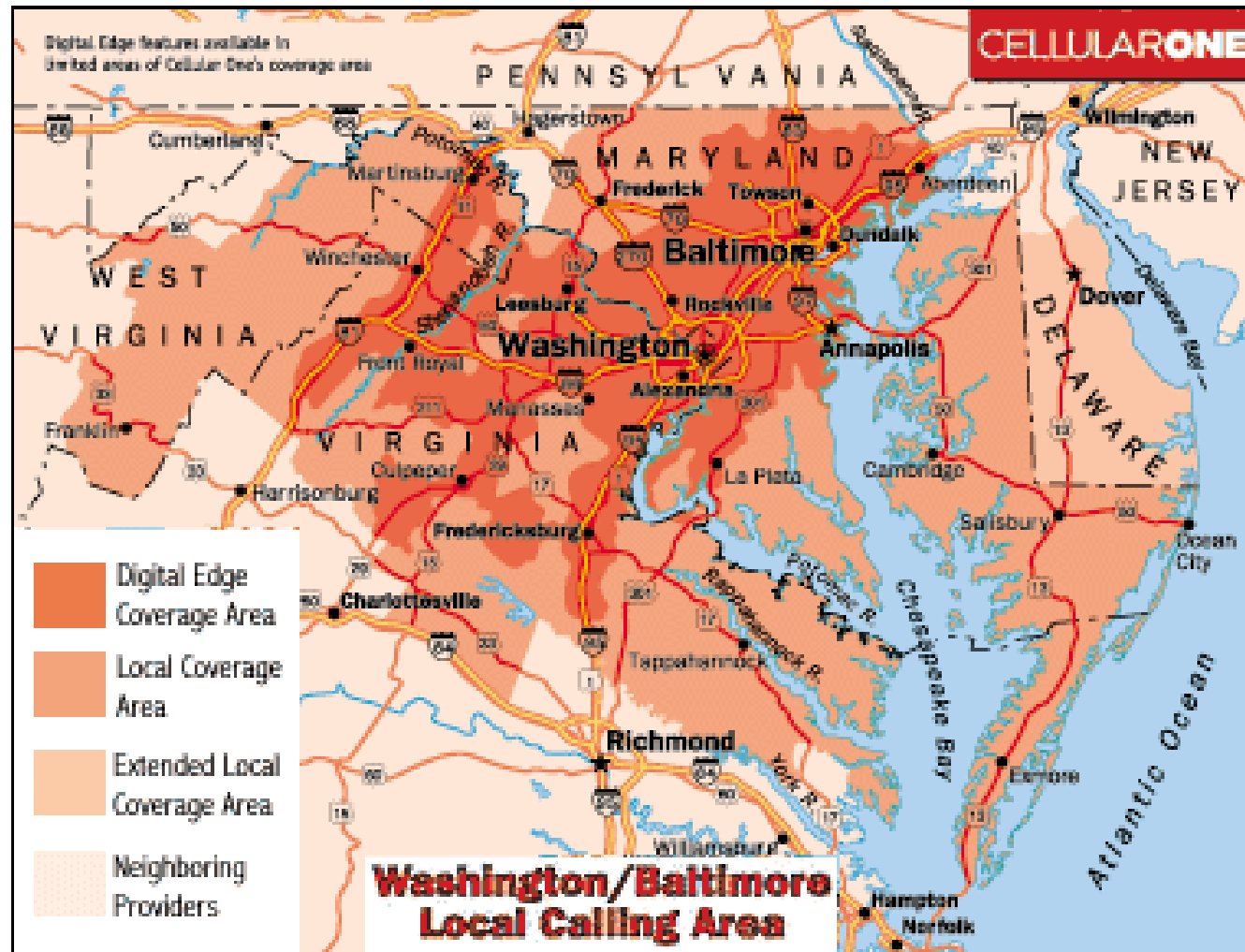
Digital Talk Time	3 hours
Digital Standby Time	60 hours (2 ½ days)

Analog Roaming Capability	Yes
Analog Talk Time	1 hours
Analog Standby Time	14 hours (½ day)

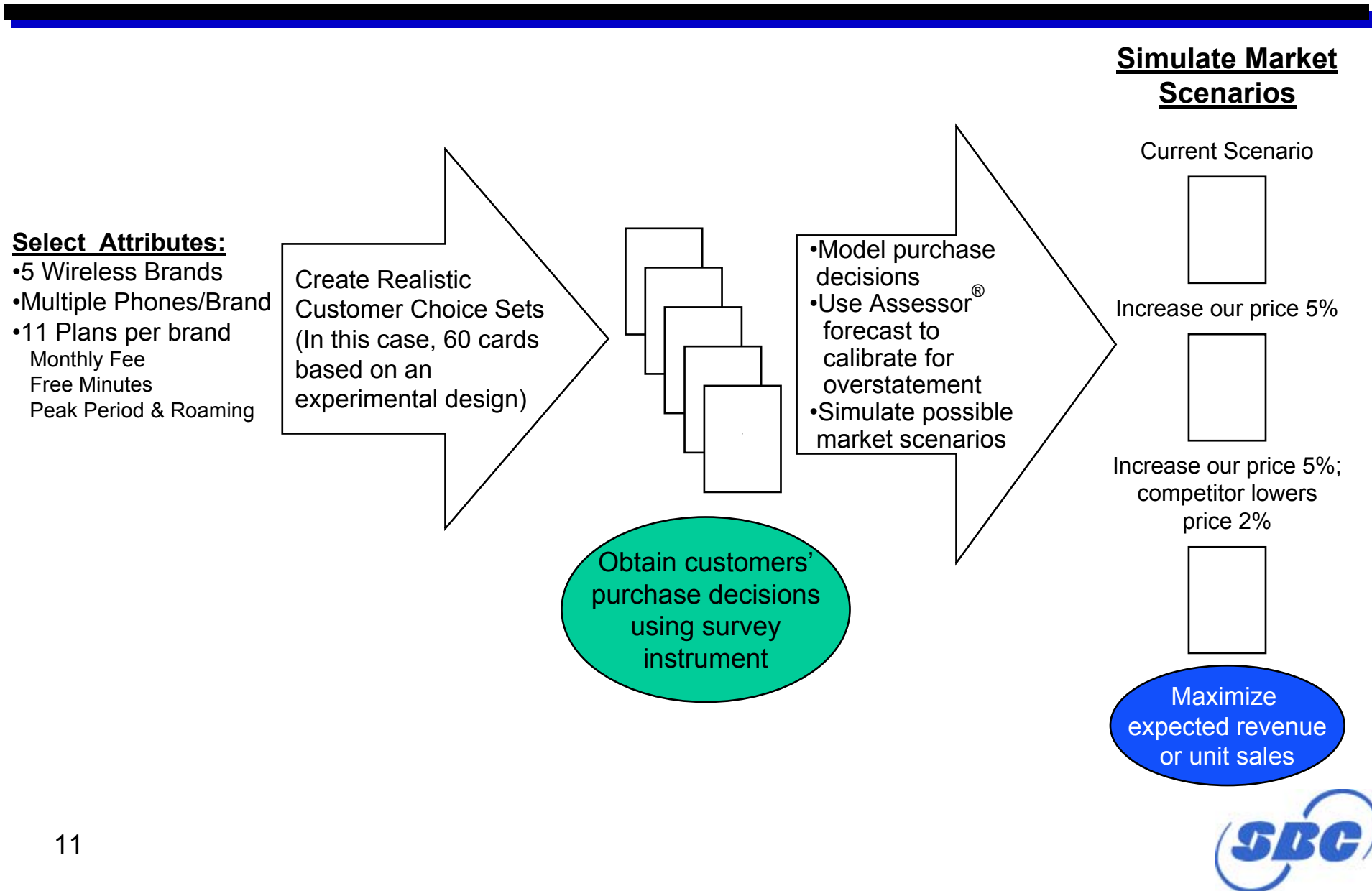
Stored Telephone Numbers	99 numbers
--------------------------	------------

Additional Features	Pager-Text Messaging Caller ID-Missed Call Directory Keypad Cover
---------------------	---

Cellular One Calling Area Map: Baltimore/DC

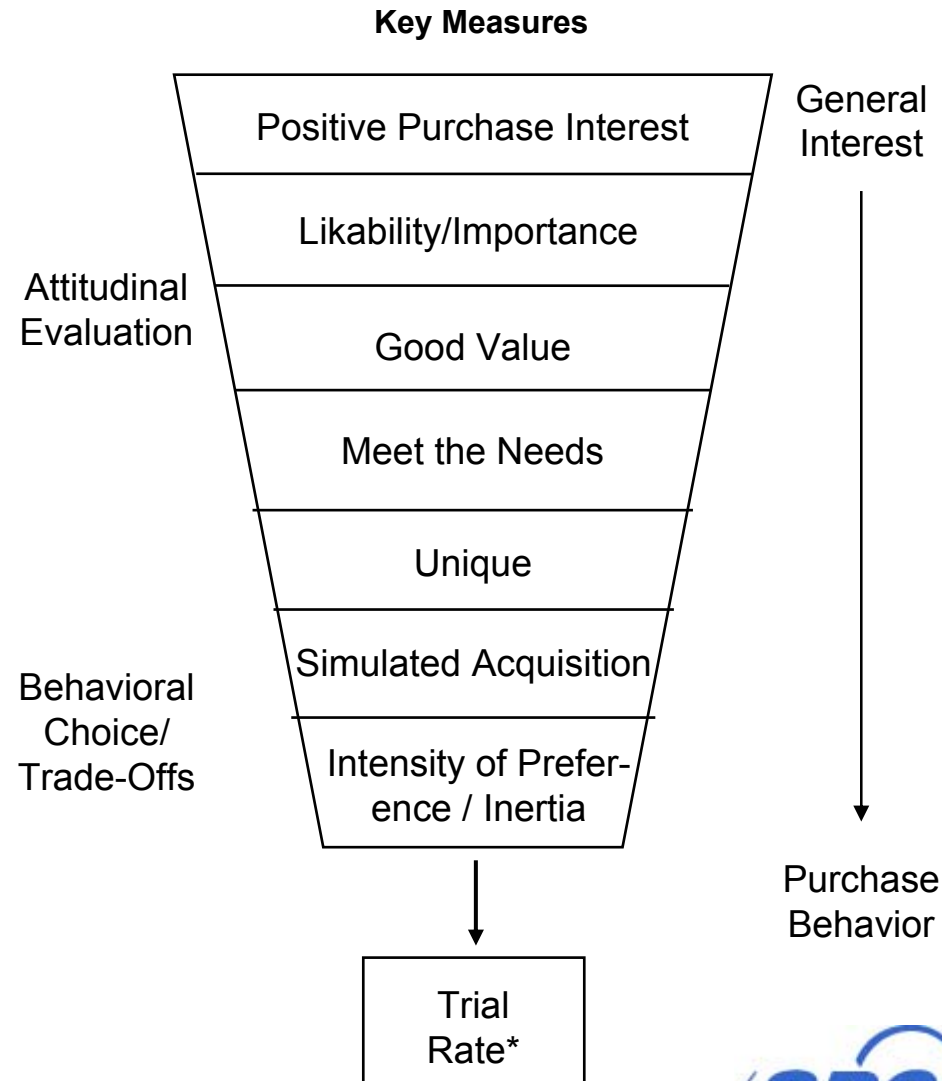


Choice Model Calibrated To Assessor[®] Forecast



Research Method (cont.): Assessor[®] Forecast

- M/A/R/C's Assessor[®] Forecasting model employs multiple attitudinal and simulated acquisition measures to derive the trial rate.
- Attitudinal appeal integrates consumer response to several dimensions (purchase interest, likability/importance, perceived price/value, meeting of needs and uniqueness). Responses to these measures serve as filters for respondent overstatement of purchase intent.
- Simulated acquisition measures whether or not consumers will buy within a relevant competitive context, in a defined time period.
- Intensity of Preference and Inertia accounts for differences between preference and actual purchase among the relevant alternatives.



Summary of Key Assessor[®] Measures

		Markets			Customer Groups		Spending Levels		
	Total	Baltimore/ DC	Dallas	Chicago	Current SBC	Non- SBC	\$25- \$45	\$46- \$100	\$101+
(Base: Total Completes)	(643)	(209)	(216)	(218)	(314)	(329)	(221)	(211)	(211)
	%	%	%	%	%	%	%	%	%
<u>Definitely/Probably Would Subscribe (Q.5b)</u>	<u>40</u>	<u>43</u>	<u>45</u>	<u>34</u>	<u>60</u>	<u>28</u>	<u>41</u>	<u>38</u>	<u>41</u>
- Definitely Would Subscribe	8	4	13	7	15	4	7	7	15
Like at Least Quite Well (Q.5c)	61	60	61	60	77	51	64	56	58
Main Benefit at Least Quite Important (Q.5f)	59	61	62	55	70	52	55	63	69
Average Value or Better (Q.5d)	89	92	85	89	94	85	88	89	91
Extremely/Very/Somewhat Different (Q.5e)	67	70	66	66	72	64	69	62	74

* Assumes 100% consumer awareness and distribution

Simulated Baseline Purchase by Provider: Chicago

	Simulated Purchase					
	Total	Customer Groups		Spending Levels		
		Current	Non-	\$25-	\$46-	
		SBC	SBC	\$45	\$100	\$101+
(Base: Total Completes)	(217)	(108)	(109)	(78)	(70)	(69)
% of Respondents that chose each Provider and a new plan at Simulated Subscription Opportunity	%	%	%	%	%	%
Cellular One	23	36	14	20	26	26
PrimeCo	20	21	20	20	21	13
Ameritech	15	5	21	19	8	16
AT&T	6	5	7	5	7	5
NexTel	6	3	8	3	11	7
Other	3	0	4	3	2	4
<i>Stay with Current Provider and Current Plan</i>	30	32	28	31	26	31

Matrix of Inertia and Loyalty Measurements

SBC Customers

		Inert	Not Inert
Loyalty	Not Delighted	14%	Vulnerable Customers 54%
	Delighted	10%	22%

Inertia

SBC Non-Customers

		Inert	Not Inert
Loyalty	Not Delighted	17%	Vulnerable Customers 50%
	Delighted	9%	24%

Inertia

Econometric Demand Analysis (Choice Model)

- Identifies and measures the relationship of factors that explain respondents' choices
- Uses respondents' stated preferences from survey
- Measures price effects within and between plans
 - Pricing simulation capabilities to answer “what if” questions
- Estimates market potential
 - Respondents have full information
 - They were asked to make a decision during the interview

Choice Model Simulation Tool

- Service Plan Inputs (for each of the 11 plans):
 - Monthly Fee
 - Free Minutes
 - Price per Minute
- Phone Inputs:
 - Nokia 6120 price
 - Nokia 5120 price
 - Motorola StarTac price
 - Ericsson 788 price
 - Ericsson 688 price
- Output:
 - Take rate (customers) and revenues by plan
 - Take rate (customers) and revenues by phone
 - Total Revenues

SBC Phone Prices Tested

Digital Phone	Lowest Price	Baseline	Highest Price
Ericsson 688	\$50	\$100	\$150
Ericsson 788	\$100	\$150	\$200
Motorola StarTac	\$175	\$200	\$275
Nokia 5120	\$75	\$100	\$150
Nokia 6120	\$100	\$150	\$200
Nokia 2160		\$50	

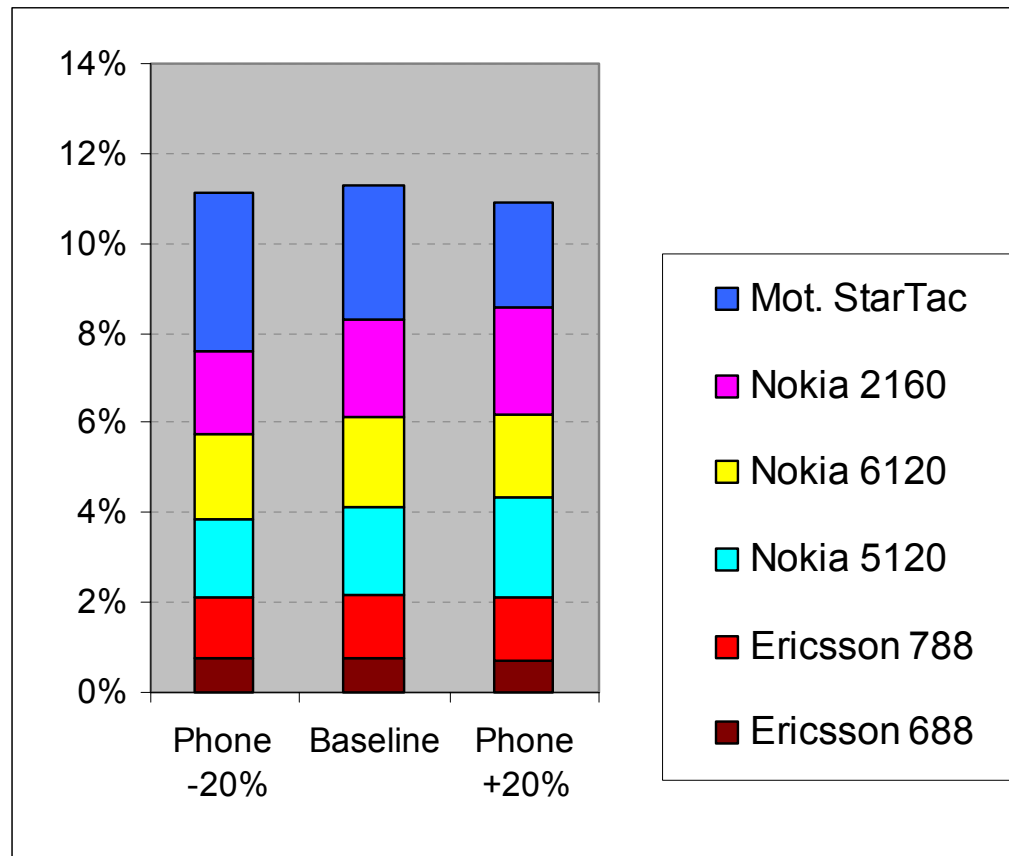
Note: Motorola StarTac always greater than or equal to all other phones

Nokia 6120 always greater than or equal to Nokia 5120

Ericsson 788 always greater than or equal to Ericsson 688

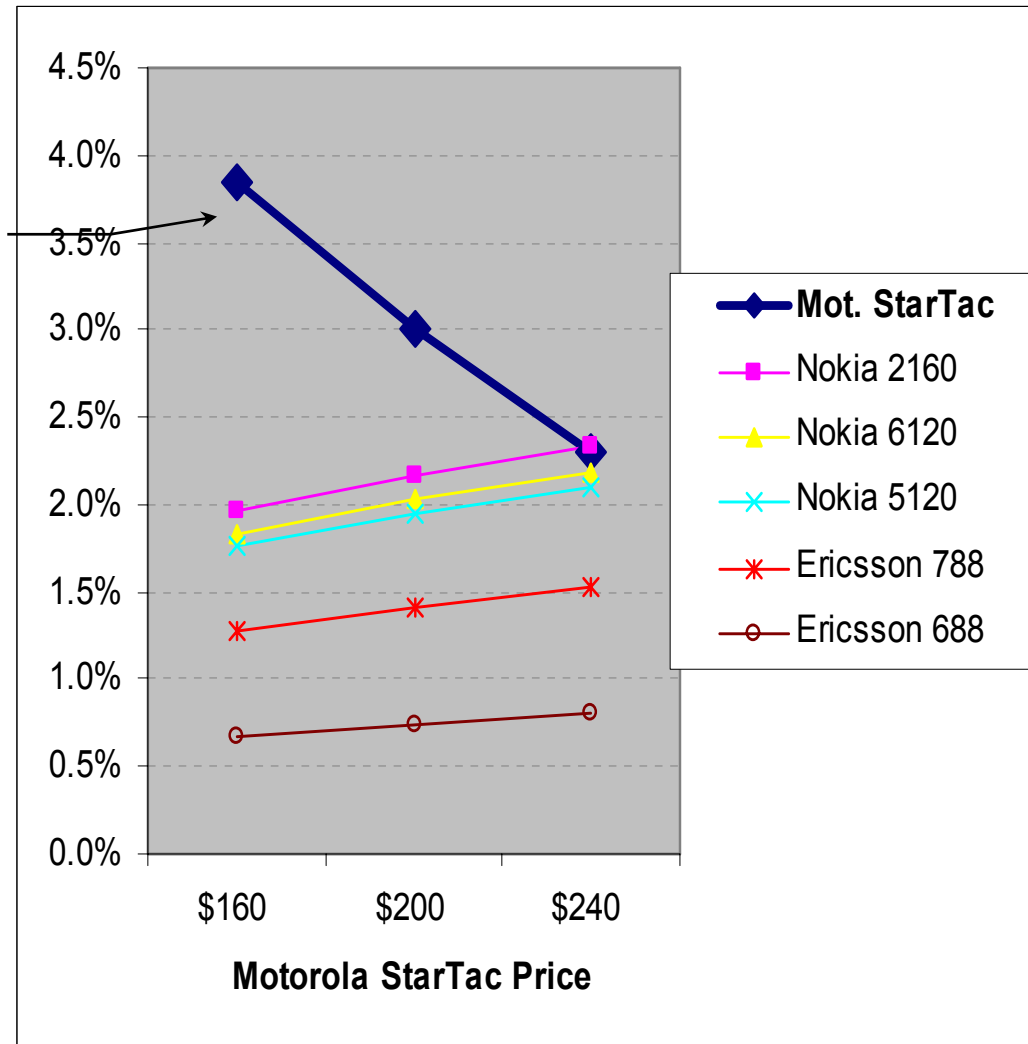
Demand for Phones As All Phone Prices Change

Overall demand changes little as all phone prices change.



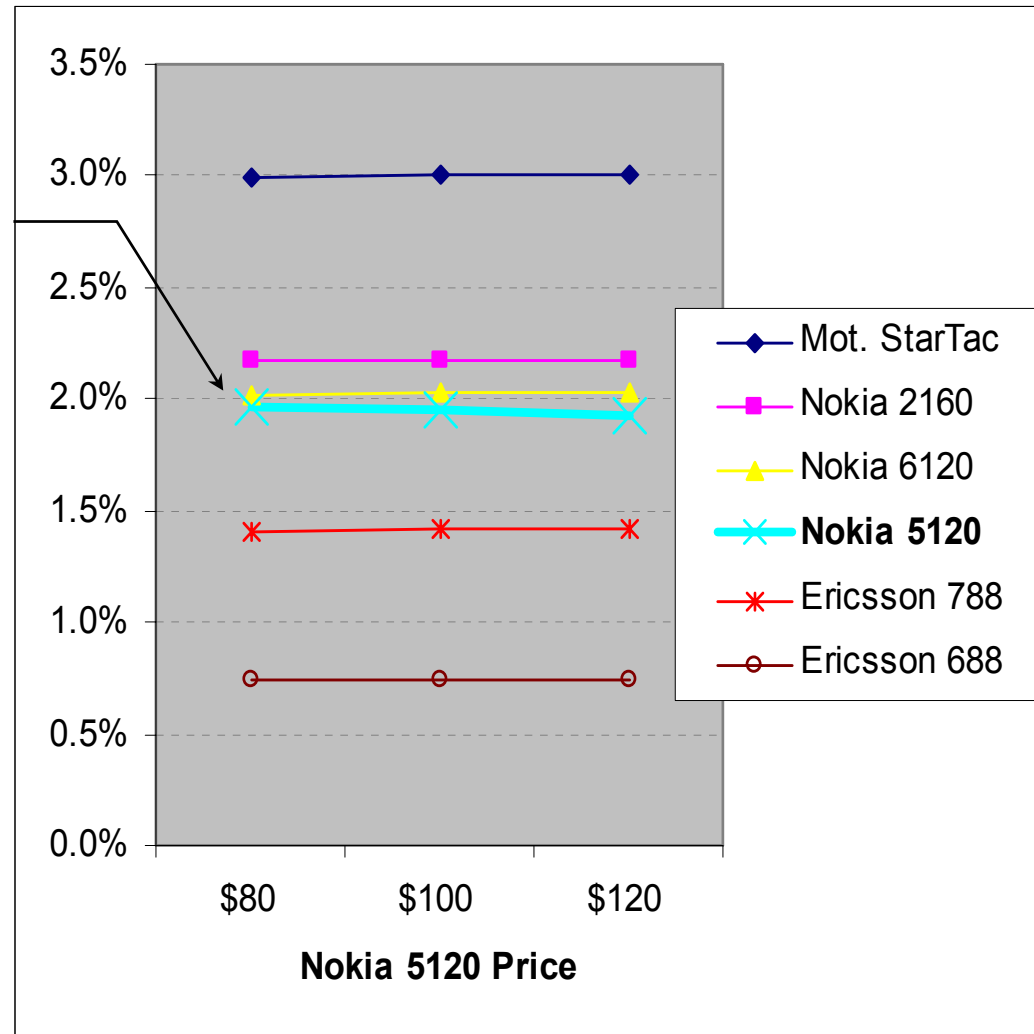
Demand for Phones As StarTac Price Changes

Demand for the StarTac shows significant price response. Demand increases dramatically as its price falls.



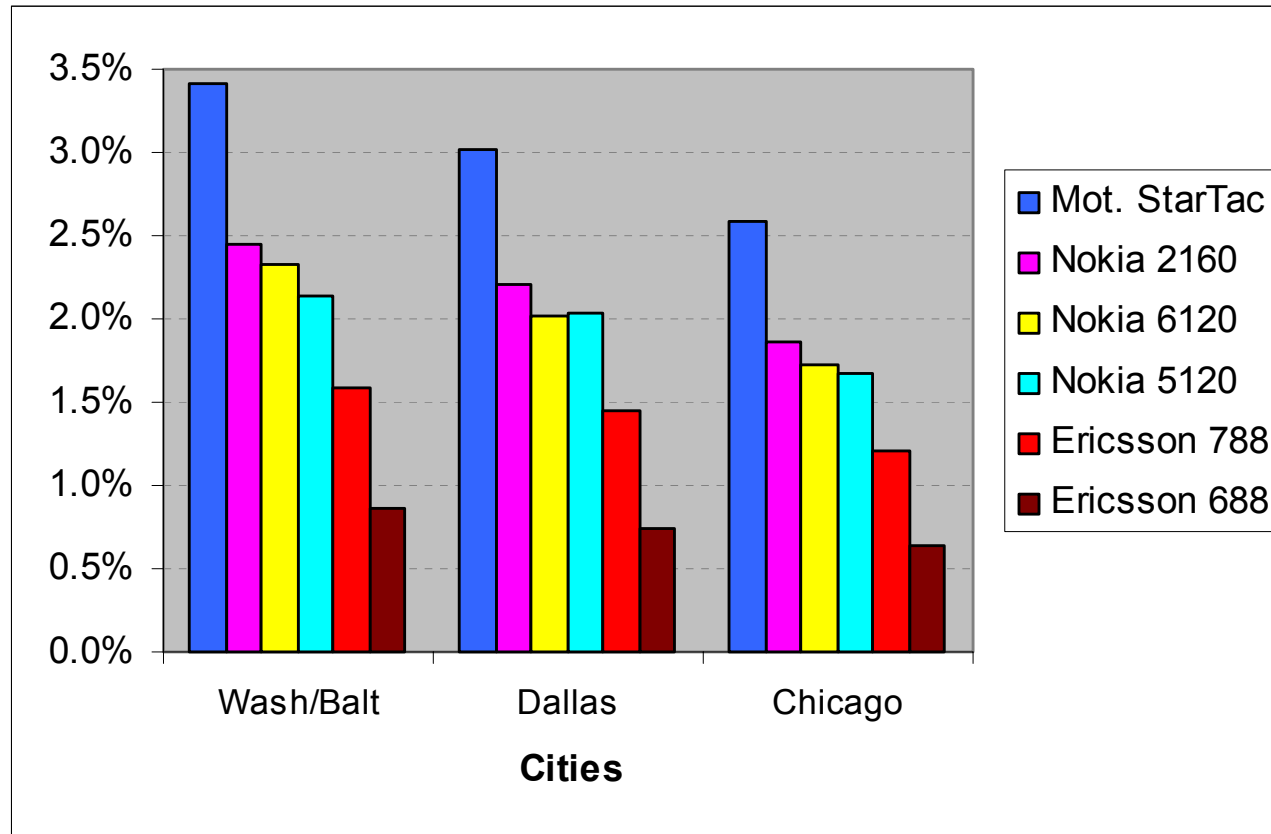
Demand for Phones As Nokia 5120 Price Changes

Demand for the Nokia 5120 shows negligible price response.



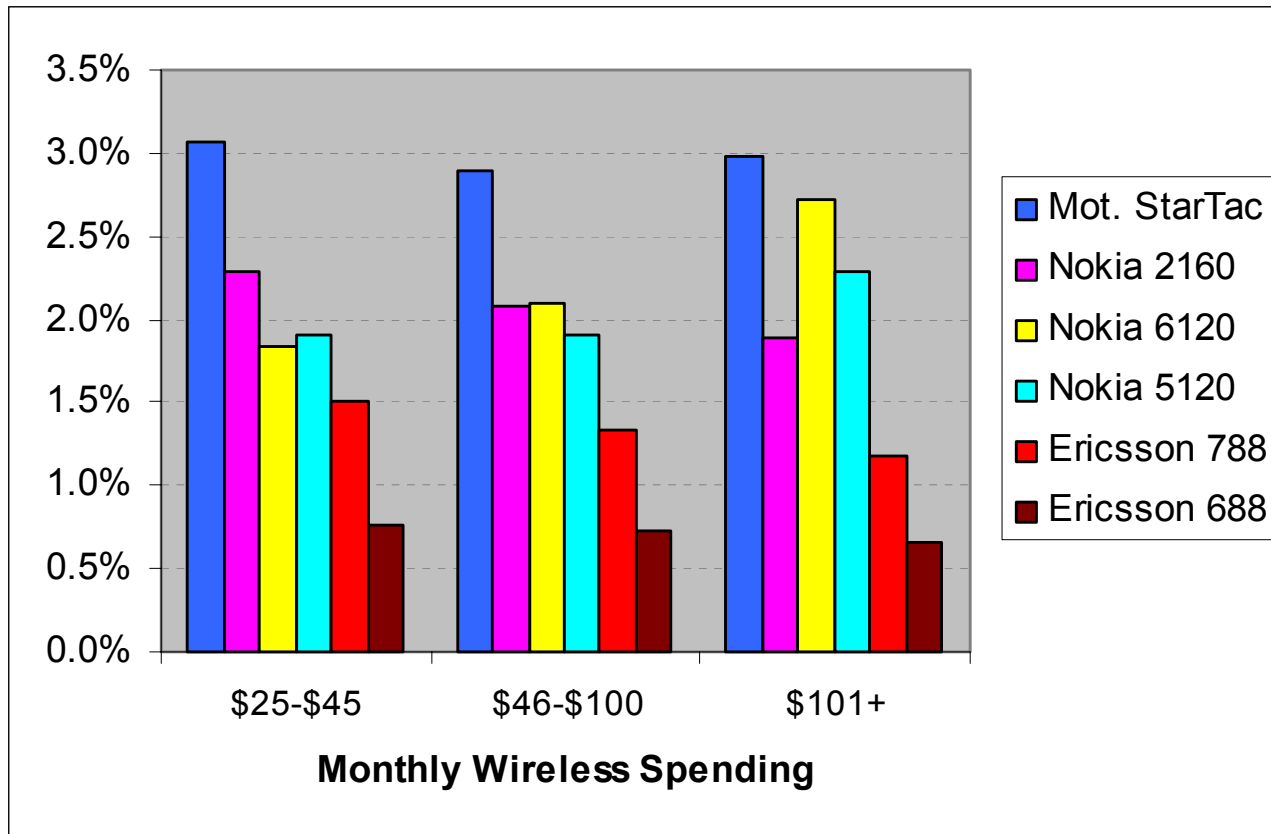
Demand By City

Potential demand is highest in DC and least in Chicago.



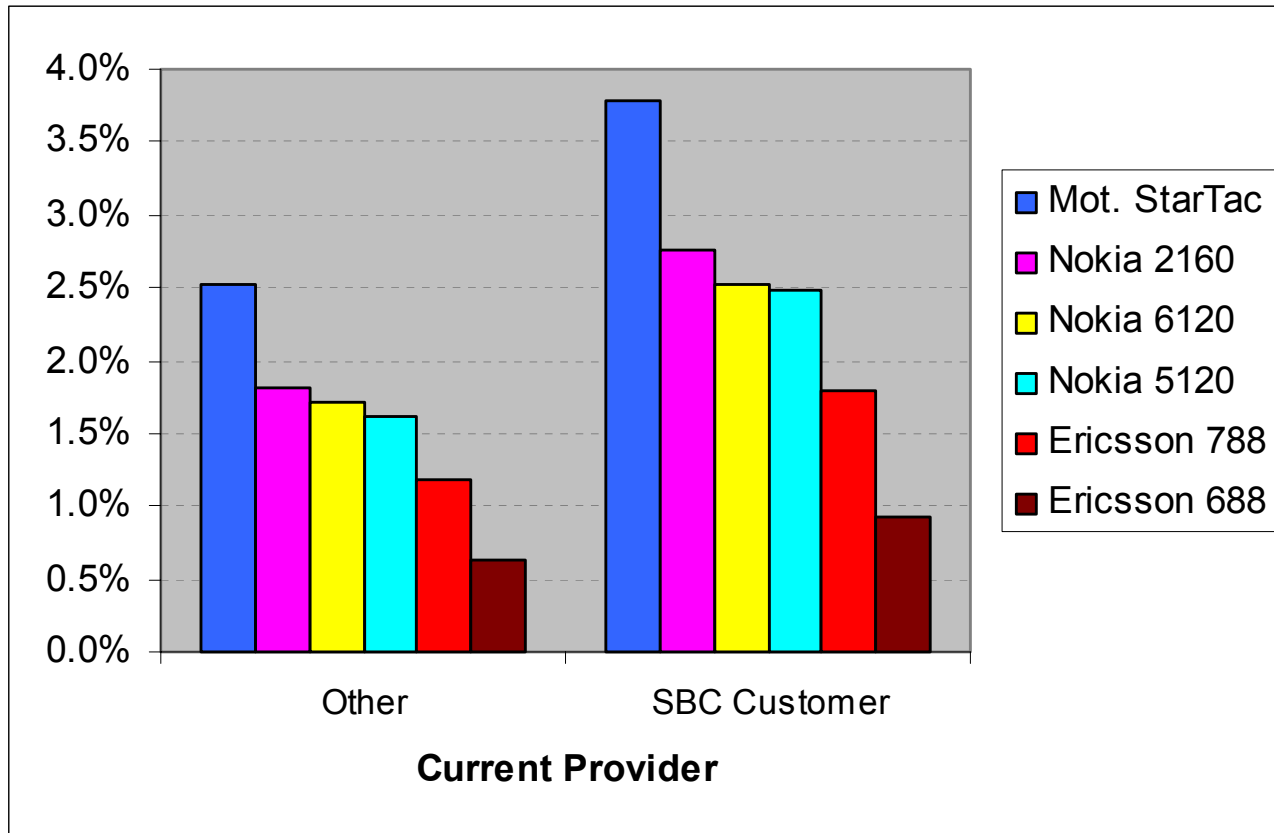
Demand by Monthly Wireless Spending

The Nokia 6120 is relatively more popular with higher wireless spenders.



Demand by Current Provider

Potential demand for SBC digital service is higher among current SBC customers.



Key Choice Model Findings

- About 11% of \$25+ wireless spenders will buy SBC digital service within the next year
- Phone prices are generally inelastic – Lowering prices will reduce revenue potential
- Characteristics of likely purchasers:
 - Currently subscribe to SBC wireless service
 - Reside in the DC area
 - Business users who generally use their wireless phones when traveling
 - Be college educated
 - Spend over \$100 a month for wireless service
 - Have been using their current wireless providers for three or more years

Research Findings & Decisions Made

- Research was used to identify which phones SBC should sell
- Research was used to negotiate contracts with phone manufacturers
- Research was used for financial planning
 - Market share forecasts
 - Competitor reactions
- Research was not used for pricing decisions (unfortunately)
 - Culture at SBC wireless company in 1998 was conditioned by years of giving away phones and selling monthly service plans
 - Earlier research (1994) had similar findings but were also ignored
 - Competitive culture in the wireless industry is still oriented toward free phones

Session Take-Aways

- You can reliably measure potential demand for new products
- Measuring price sensitivity is important but often controversial
- Accurate demand research requires survey choices to mirror actual market choices (environment, brands, prices, features, tradeoffs)