

An Adaptation of the “Quality Adjusted Life Years” Construct to the Measurement of Service Quality Utility

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What Motivates the Research?

- ❖ Services comprise approximately 75% of most developed economies
- ❖ Quality is an important aspect of service design, management and services marketing
- ❖ Yet we do not have agreement as to what service quality is
- ❖ There is even less agreement as to how to measure service quality
- ❖ To design, price and manage services we need to not only define and measure service quality we need to measure its economic utility

If consumers pay for the benefits that accrue to them from services, then the benefits and costs should behave according to basic laws of microeconomics.

We believe services do behave according to basic microeconomic laws, but this requires that we be able to measure costs and benefits to consumers.

The General Questions:

How do consumers experience service quality?

What is the experiential content of service quality?

Is service quality experientially unitary or multidimensional?

Can consumers conceptualize and cognitively operate on, that is make conscious judgments about the discrete dimensions of service quality?

Do consumers experience and discriminate utility from the individual components of service quality?

Can we measure the utility of service quality and its component dimensions?

The Specific Research Questions:

- ❖ Do restaurant diners discriminate and attribute different and distinguishable utilities to the different aspects of restaurant dining service quality?
- ❖ Do the measured utilities of the different aspects of restaurant dining service quality conform to basic microeconomic laws?
- ❖ Is the "*quality life years*" construct a viable measurement strategy for measuring service quality utility?

What is the “Quality Adjusted Life Years” construct ?

A valuation of tradeoffs between the quality of life and the duration of life,
An economic measure of experience quality

Ask an amputee who is wheel chair bound:

How many years of wheel chair bound life would s/he sacrifice to get one year of life with full natural mobility?

Ask a restaurant diner who is in a restaurant with good ambience but bad service:

How many units of ambience would you give up to get one unit of good service quality?

How is the "Quality Adjusted Life Years" calculated?

One year of quality (disease free) life = 1.0

An example:

Patient is expected to live one year without treatment

Patient's life can be extended 4 years with treatment but at reduced quality = 0.6

4 years extra life at reduced quality = 0.6 produces $4.0 \times 0.6 = 2.4$ QALY

Less 1 year at reduced quality $(1.0 - 0.6) = 0.4$ QALY

Thus the "Quality Adjusted Life Years" generated by treatment

$= 2.4 - 0.4 = 2.0$ Quality Adjusted Life Years

An adaptation of the “Quality Adjusted Life Years” construct

Again, ask an amputee who is wheel chair bound:

How many years of wheel chair bound life would s/he sacrifice to get one year of life with full natural mobility?

Suppose s/he says “I will trade two years of wheelchair bound life for every year of life with full mobility”

If we set the utility of a year of life with full mobility = 1.0

Then the utility of one year of wheel chair bound life = $1.0 \div 2.0 = 0.5$

An adaptation of the "Quality Adjusted Life Years" construct

Now ask a restaurant diner:

How many units of Ambience s/he would sacrifice to get an extra unit of Service?

Suppose s/he says "I will trade four units of Ambience to get one additional unit of Service"

If we set the utility of one unit of Service = 1.0

Then the utility of one unit of Ambience = $1.0 \div 4.0 = 0.25$

(Notice this is nothing more than the microeconomic concept of relative price)

But of course the problem is how do operationally define and establish in the diner's mind what one unit of service is?

The Provisional Claim

It is possible to operationally define and to establish in the consumer's mind what one unit service quality is

And if it is possible, then
it is also possible to measure the relative utility, as well as the
marginal utility, of any aspect of service quality

How did we do this?

The Restaurant Dining Experience: Five aspects to think about

- (1) **Ambience**: the feelings evoked by a restaurant's tangible and intangible surroundings
- (2) **Service**: your sense that the service staff understand, care about and make a sincere, competent effort to accommodate your expectations and preferences
- (3) **Menu**: the range of choices available and the inclusion of offerings that appeal to you.
- (4) **Tastes**: the taste and flavors achieved by the choice and quality of ingredients and the chef's skill of preparation
- (5) **Value**: your sense that what you got was worth what you paid for it.

Q2: Rank the five aspects of quality according to how important each is to you when dining in restaurants with an average cost of dinner for two or \$50 (Restaurant A) , \$100 (Restaurant B), and \$200 (Restaurant C). Rank of 1= most important Rank of 5= least important

	Restaurant A			Restaurant B			Restaurant C	
	"Your Ranking"			"Your Ranking"			"Your Ranking"	
Cost = \$50			Cost = \$100			Cost = \$200		
Ambience	<input type="text"/>	-	Ambience	<input type="text"/>	-	Ambience	<input type="text"/>	
Service	<input type="text"/>		Service	<input type="text"/>		Service	<input type="text"/>	
Menu	<input type="text"/>		Menu	<input type="text"/>		Menu	<input type="text"/>	
Tastes	<input type="text"/>		Tastes	<input type="text"/>		Tastes	<input type="text"/>	
Value	<input type="text"/>		Value	<input type="text"/>		Value	<input type="text"/>	



Q3: Now assume the two of you have agreed to limit the choice of restaurants to those with an average cost of dinner for two of about \$50 ? How would you allocate the \$50 over the five quality aspects?

Cost = \$50	"Amount Allocated"	
Ambience	<input type="text"/>	
Service	<input type="text"/>	
Menu	<input type="text"/>	
Tastes	<input type="text"/>	
Value	<input type="text"/>	
Total Amt	\$50	check that amounts allocated sum to \$50

Q4: Now assume the two of you have agreed to limit the choice of restaurants to those with an average cost of dinner for two of about \$100 ? How would you allocate the \$100 over the five quality aspects?

Cost = \$100	"Amount Allocated"	
Ambience	<input type="text"/>	
Service	<input type="text"/>	
Menu	<input type="text"/>	
Tastes	<input type="text"/>	
Value	<input type="text"/>	
Total Amt	\$100	check that amounts allocated sum to \$100

Q5: Now assume the two of you have agreed to limit the choice of restaurants to those with an average cost of dinner for two of about \$200 ? How would you allocate the \$200 over the five quality aspects?

Cost = \$200	"Amount Allocated"	
Ambience	<input type="text"/>	
Service	<input type="text"/>	
Menu	<input type="text"/>	
Tastes	<input type="text"/>	
Value	<input type="text"/>	
Total Amt	\$200	check that amounts allocated sum to \$200

Q6: If you could tradeoff the aspects of quality by sacrificing some of those not so important to you in order to gain more of those that are important to you, how would you exercise the tradeoff? Reallocate the amounts in the Restaurant Profile so as to reflect how you would "Tradeoff" if you could.

	Rest A	Your	-	Rest B	Your	-	Rest C	Your		
Cost = \$100	Profile	"Tradeoffs"	-	Cost = \$100	Profile	"Tradeoffs"	-	Cost = \$100	Profile	"Tradeoffs"
Ambience	40	<input type="text"/>	-	Ambience	10	<input type="text"/>	-	Ambience	10	<input type="text"/>
Service	10	<input type="text"/>		Service	40	<input type="text"/>		Service	10	<input type="text"/>
Menu	20	<input type="text"/>		Menu	20	<input type="text"/>		Menu	20	<input type="text"/>
Tastes	10	<input type="text"/>		Tastes	10	<input type="text"/>		Tastes	40	<input type="text"/>
Value	20	<input type="text"/>		Value	20	<input type="text"/>		Value	20	<input type="text"/>
Total Amt	\$100	\$100		Total Amt	\$100	\$100		Total Amt	\$100	\$100



Q16: How difficult did you find it to think about and assign numerical values to your preferences related to the quality aspects ?

- Impossible, most of my answers were random guesses
- Difficult, but I was able to discriminate somewhat
- Somewhat difficult but was able to discriminate in most cases
- Somewhat easy and I was able to discriminate in most cases
- Very easy and I was able to discriminate well in most cases

Research Question 1

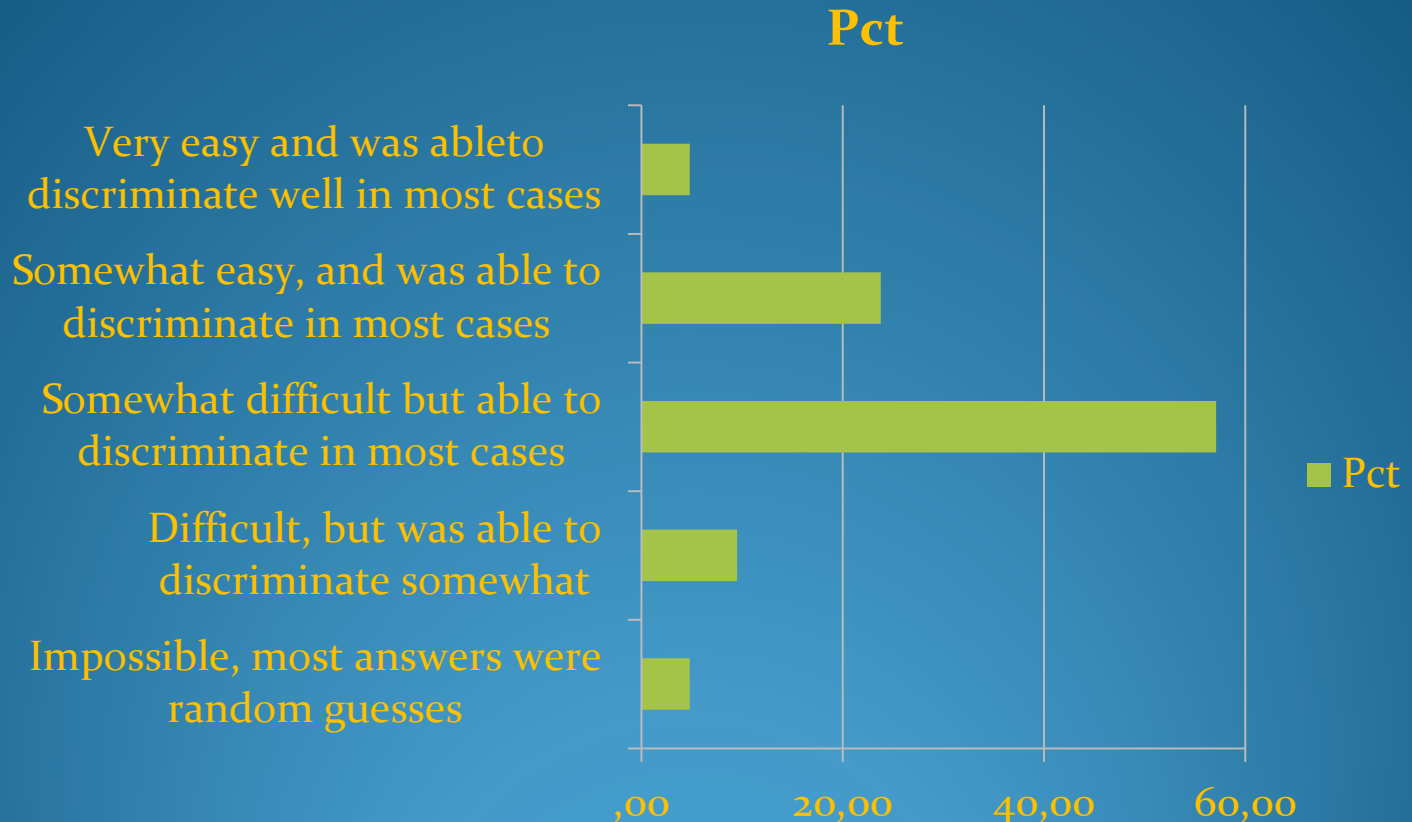
Do consumers discriminate and attribute different and distinguishable utilities to the different aspects of restaurant dining service quality?

The answer seems to be yes.

- ❖ When asked if they could discriminate and assign utilities most say they could
- ❖ There is more or less consistency of answers across variations in the way respondent is asked to attribute utility to the different aspects of dining quality

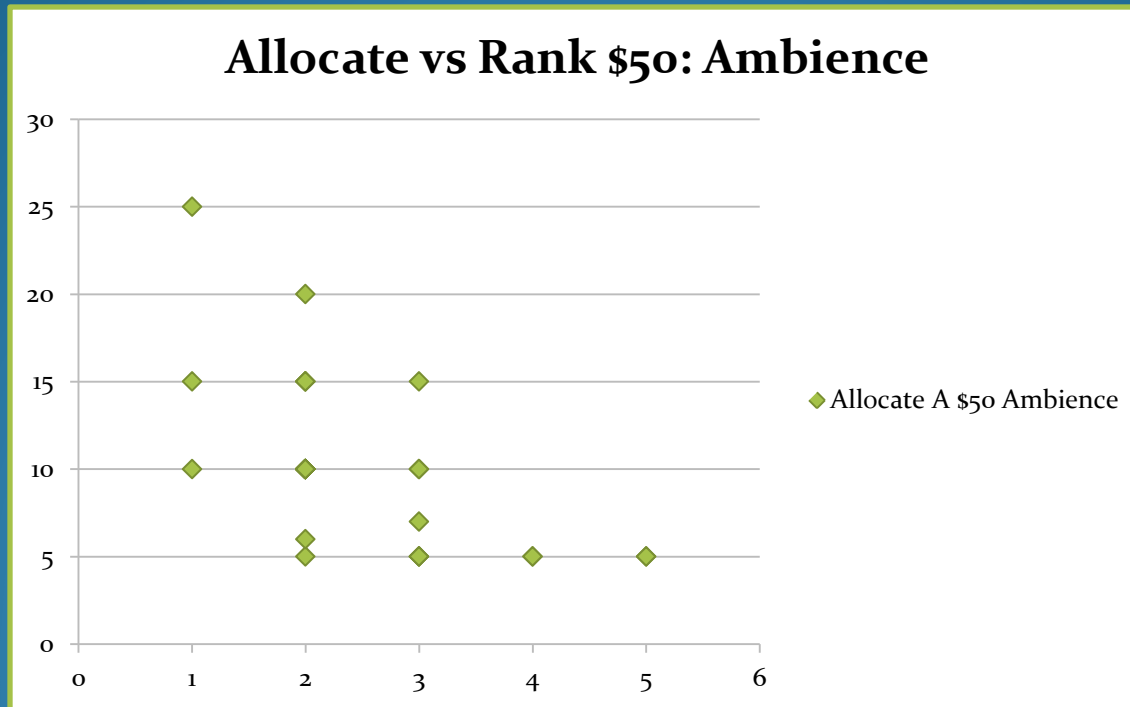
Research Question 1

Were you able to Discriminate and Assign Utilities?



Research Question 1

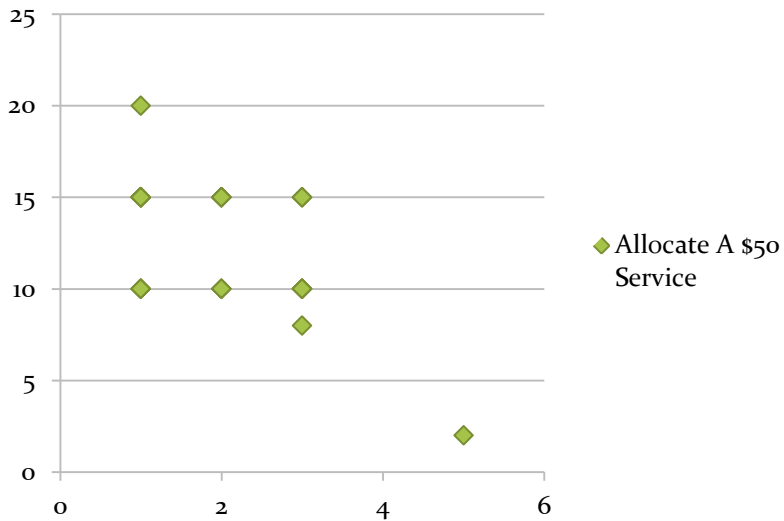
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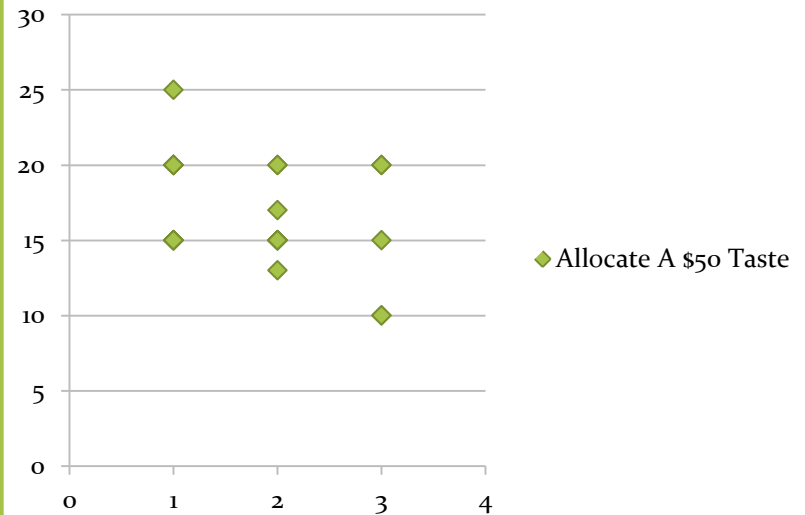
Research Question 1

Consistency of Answers – Cost of Dinner for Two = \$50

Allocate vs Rank \$50: Service



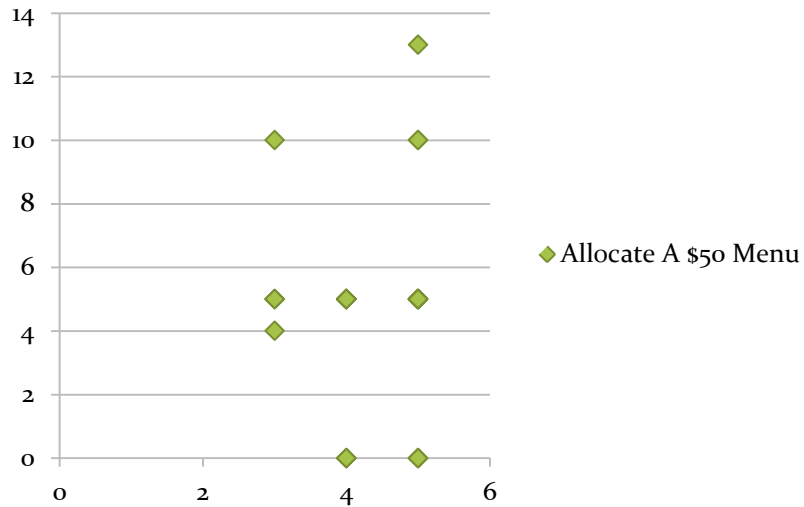
Allocate vs Rank \$50: Taste



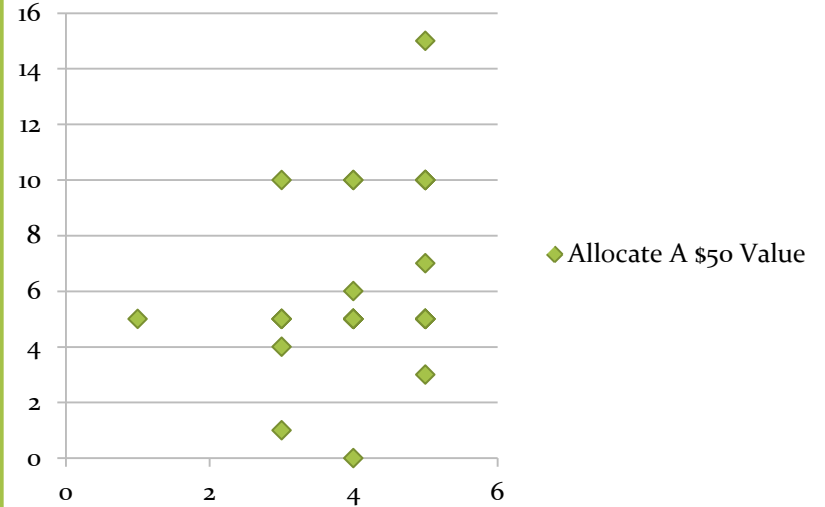
Research Question 1

Consistency of Answers – Cost of Dinner for Two = \$50

Allocate vs Rank \$50: Menu

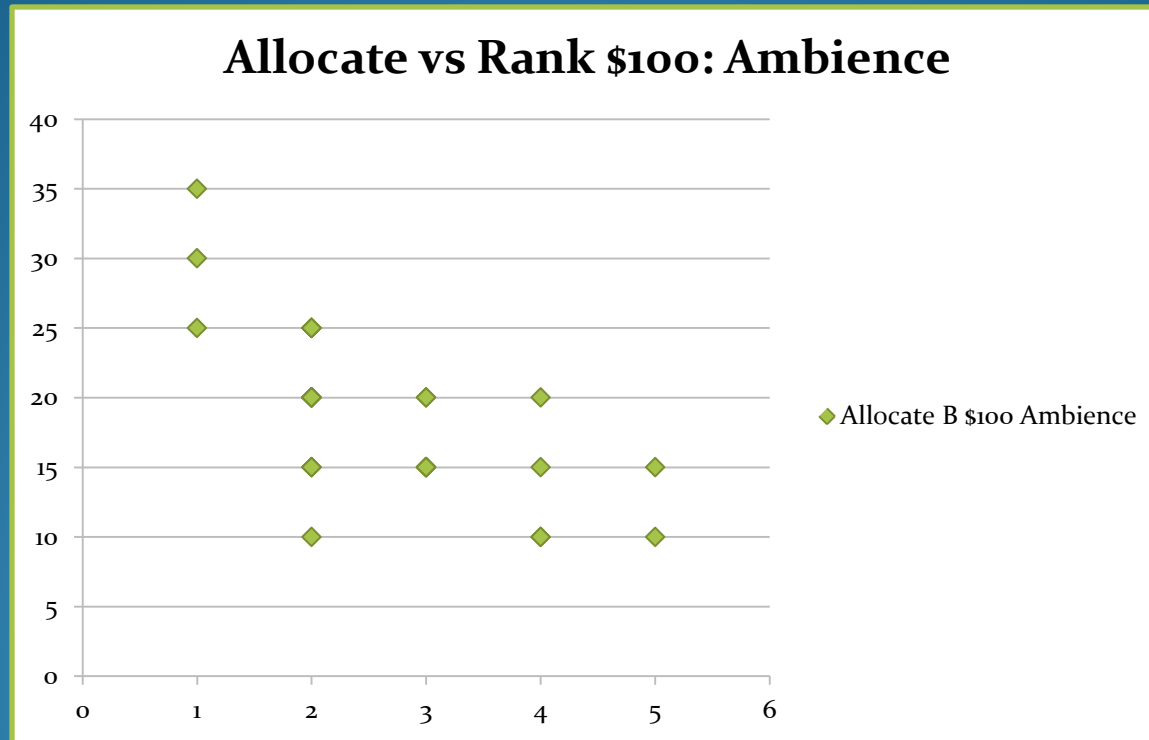


Allocate vs Rank \$50: Value



Research Question 1

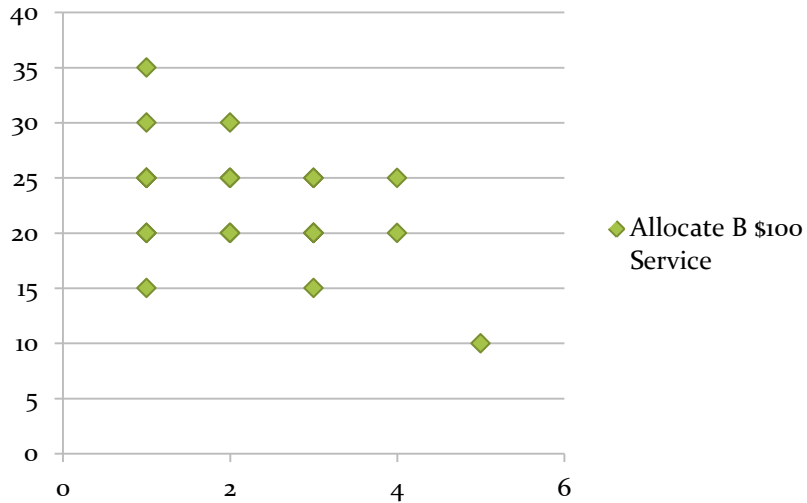
Consistency of Answers – Cost of Dinner for Two = \$100



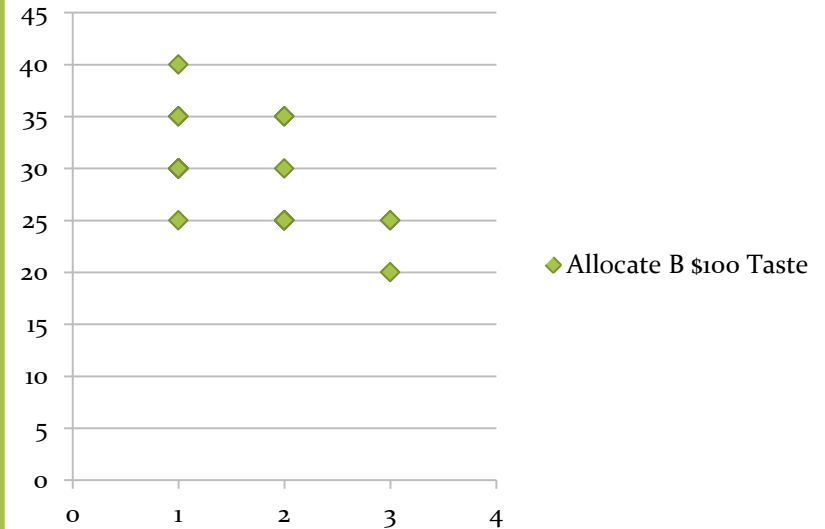
Research Question 1

Consistency of Answers – Cost of Dinner for Two = \$100

Allocate vs Rank \$100: Service



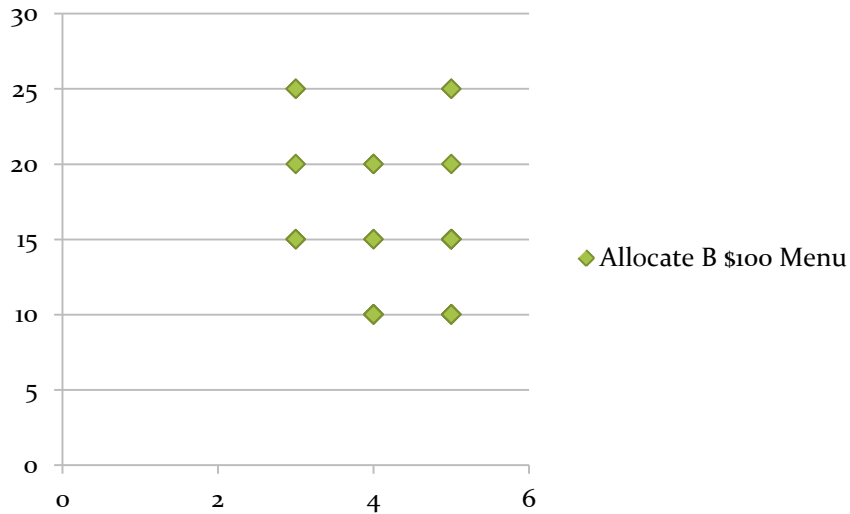
Allocate vs Rank \$100: Taste



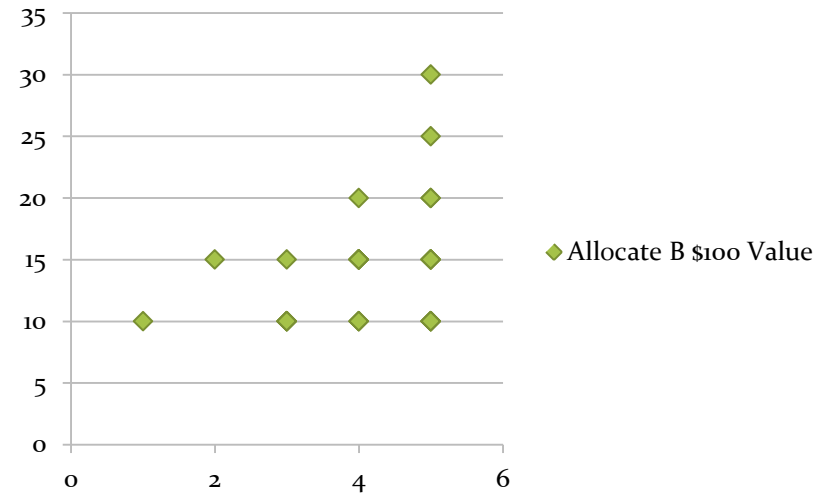
Research Question 1

Consistency of Answers – Cost of Dinner for Two = \$100

Allocate vs Rank \$100: Menu



Allocate vs Rank \$100: Value



Research Question 2

Do the measured utilities of the different aspects of restaurant dining service quality conform to basic microeconomic laws?

The answer seems to be yes.

Some preliminary reasoning:

- ❖ If the cost of the attainable resources required to fully satisfy multiple service benefits (i.e., aspects of service quality) then diners will have to elect how much of one benefit to give up in order to get more of those that are more important .
- ❖ All dining service benefits may not be equally desirable.
- ❖ How they allocate the monetary resources will reflect how they would spend it if they could choose which service benefits they would receive

It is equivalent to choosing from among restaurants with varying quality profiles

Research Question 2

Which is the more efficient model?

Y = Allocation (Budget allocated to service quality aspect)

X = Importance Ranking (expressed relative benefit)

$$y = \alpha + \beta x + \varepsilon$$

or

$$\text{Log}(y) = \alpha + \beta x + \varepsilon$$

The answer seems to be $\text{Log}(y) = \alpha + \beta x + \varepsilon$

Research Question 2

The examples of Ambience, Service and Taste

	Ambience			Service			Tastes		
	<u>\$50</u>	<u>\$100</u>	<u>\$200</u>	<u>\$50</u>	<u>\$100</u>	<u>\$200</u>	<u>\$50</u>	<u>\$100</u>	<u>\$200</u>
Correlation (X,Y)	-0,60	-0,68	-0,34	-0,55	-0,43	-0,19	-0,32	-0,56	-0,51
Correlation (X,LogY)	-0,67	-0,68	-0,33	-0,62	-0,46	-0,15	-0,79	-0,59	-0,52
Slope (X,Y)	-2,84	-3,87	-2,94	-1,89	-1,89	-1,38	-1,42	-3,73	-6,02
Slope (X,Log Y)	-0,30	-0,21	-0,07	-0,25	-0,10	-0,03	-0,10	-0,14	-0,11

Research Question 3

Is the "*quality adjusted life years*" construct a viable measurement strategy for measuring service quality utility?

The answer seems to be yes.

Service quality would appear to be experientially multidimensional

Consumers appear able to conceptualize and cognitively operate on, that is make conscious judgments about the discrete dimensions of service quality

Consumers appear to discriminate and report utility that accrues from the individual components of service quality?

Utility as measured using the "quality adjusted life years" appears to behave roughly according to the basic laws of micro economics

Conjecture:

It would seem that measuring consumers' attribution of utility to the various aspects of service quality is a viable way to define service quality and to measure the degree to which consumers experience it.

THANK YOU FOR COMING

"Not everything that can be counted counts, and not everything that counts can be counted." Albert Einstein