Choosing a Synthetic Oligonucleotides Supplier

Key Factor Analysis
A Branding Case Study

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By

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Editorial Note:

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Introduction

Description

"Overall, the market for commercially available custom oligonucleotides (oligos) has reached a certain level of maturity. Mature markets are those that have achieved a state of equilibrium marked by the absence of significant innovation. In such a situation, brand equity is difficult to establish and suppliers are challenged to differentiate themselves and/or their products in an effort to keep customers from switching to competitors. Customers in a mature market therefore enjoy significant leverage over their suppliers, and in an attempt to maintain market share suppliers often feel as if they have no choice but to compete on price with a resultant decline in profitability.

The data collected for this project is based on a survey among life science and medical professionals who participate in surveys that address emerging technologies, test customer reactions to new product concepts, measure brand awareness, and assess advertising effectiveness.

While the overall study had objectives that highlighted research trends driving the demand for oligonucleotides [oligos] in the United States, this paper is based on the author's part in the study's addendum research to determine key attributes in selecting a synthetic oligos suppliers using *P-E GAP Analysis*. While the actual results were segmented by brand, this illustration is viewed from an "overall" perspective.

A secondary objective related to brand equity - *Indexing based on Derived Importance* – and is planned for a later paper.

“P-E GAP” Analysis

GAP analysis is the “descriptive” for a methodology used to help understand the relationship between what is perceived to be “important” and the derived difference between performance and expectations [the P-E GAP]. For example, a consumer might note that “price” is very important in their decision to purchase an item. However, when asked what else is important in that decision, the consumer might also list another 20 items or attributes that are equally important. Thus, how does price actually “rank” in comparison to the entire set of decision criteria?

As with cause/affect models, such as regression and discriminate analysis, GAP analysis attempts to understand relative positioning. The value in GAP analysis is its simplicity and “pictorial” representation. However, GAP analysis does not determine any statistical relationship between these items of importance. GAP analysis is based on the comparison between an attribute's importance [mean rating] and the difference between the attribute's [mean] performance and its [mean] expectation, called the P-E GAP or the difference between performance and expectations.

The GAP Table that forms the basis of this analysis displays the mean results for each measured attribute based on its importance (I) to the respondent, the respondent’s perception of performance (P) of each attribute and then what the respondent expects (E).

The GAP Map is another form of the Quadrant Map that pictorially represents of the results with the P-E GAP on the vertical axis and importance on the horizontal axis. The four quadrants are based on the intersection of the overall importance mean and the P-E GAP [illustrated in Figure 1].

- A high [or positive direction] P-E GAP for an attribute is generally favorable and means that performance exceeds expectations [P > E].

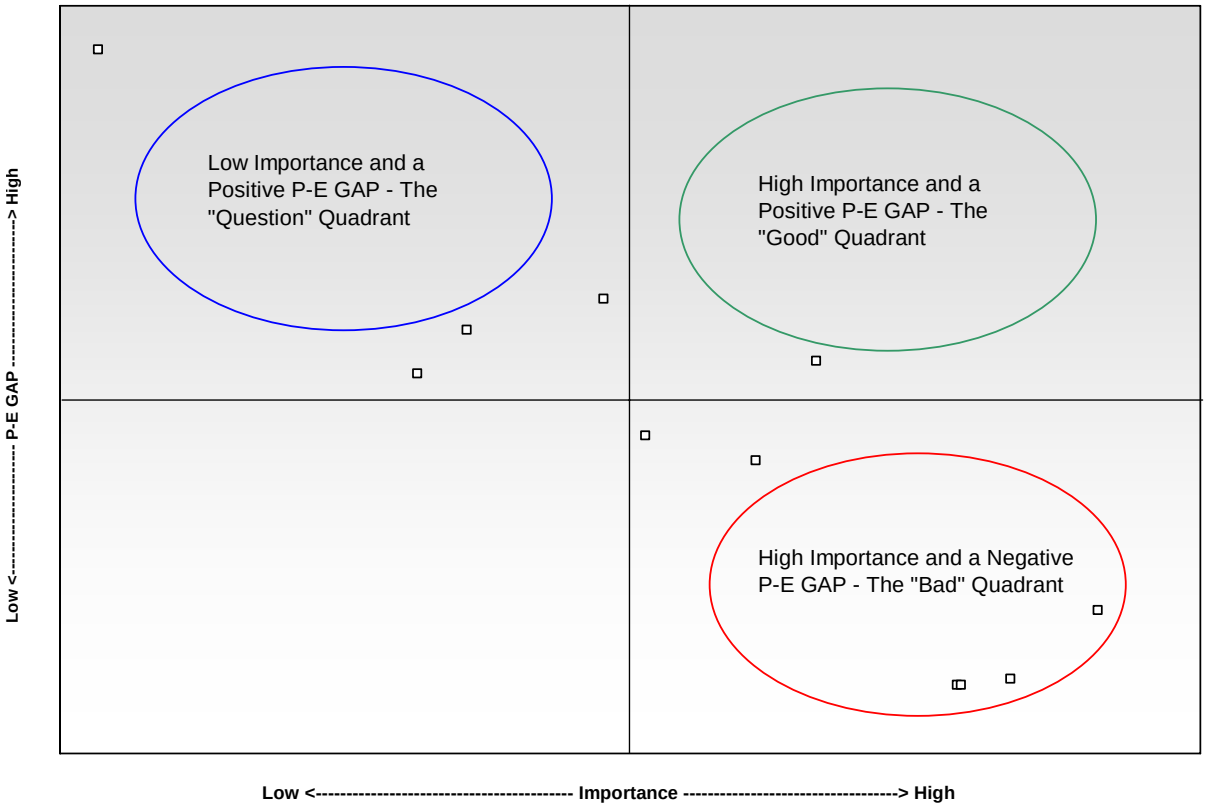
- On the other hand, a low [or negative direction] P-E GAP denotes performance as being below expectations [P < E].

While these are informative results, a much more revealing interpretation takes place when attribute importance is considered.

Attributes that fall to the left of the vertical reference line are classified as those of “lesser importance” relative to those to the right of the line. This is not to say that they are unimportant.

The P-E Map used to represent the results of the GAP analysis does not form its basis on pure quadrant theory but is an extension of an earlier theory that involved "market acceptance" models that describe “cash cows” and “dogs” to segment products based on their market attractiveness and competitive positioning. Here we relate attractiveness to importance while the P-E GAP is a gauge of perceived market position. Such a display exposes attributes that have a high level of importance to the consumer, as defined by its mean rating, but have a low performance-to-expectation deviate (P-E GAP).

Figure 1: P-E Map



Findings – Key Supplier Attributes

Each respondent was asked to rate a series of attributes using a 7-point Likert scale ranging from a "low" rating to a "high" rating using the following questions:

Previous studies have identified the following features as important to other life science researchers. When considering your Primary Supplier's [noted in an earlier question] ability to provide oligos, how IMPORTANT to you are each of the following? ***(Choose only one for each)***

How we *expect* a company to perform may differ from how they actually perform. How high or low are your EXPECTATIONS for each of these features when purchasing oligos from your Primary Supplier? ***(Choose only one for each)***

As we mentioned in the previous question, how we expect a company to perform may differ from how they actually perform. How well is your Primary Supplier PERFORMING based on your experiences when purchasing oligos from this company? ***(Choose only one for each)***

The results are described below:

GAP Results

Table 1 below displays the results of the P-E GAP analysis and consists of the mean results for each measured attribute based on its importance to the respondent (I), the respondent's perception of their primary supplier's performance regarding that attribute (P) and then what the respondent expects of each attribute (E). The P-E column represents the difference, or "gap," between performance and expectation. Thus, a positive P-E indicates that the attributes performance is higher than expected, and visa versa.

For example, based on the 7-point Likert scale, the mean response for the perceived importance of "Accuracy of shipment" is 6.73; its mean expected value is 6.63 while it is performing at a mean rating of 6.41. Thus, the P-E GAP is -0.22 [6.41-6.63] which finds that accuracy of shipment is "under performing."

Of particular note is "value for price paid." The results show that the perceived "performance" of the price value being derived for the price being paid is lower than expected. That is, the price being paid is greater than the perceive value – underperforming.

Also noted in the table is the overall importance mean and P-E GAP which are used to determine the quadrants for interpretative purposes. The overall P-E GAP of 0.01 suggests that, generally, performance is just about at par with expectation.

Table 1: P-E GAP Table

I	Attribute	P	E	P-E
6.73	Accuracy of shipment	6.41	6.63	- 0.22
5.43	Customer service/support	5.75	5.47	0.28
5.99	Electronic ordering capabilities via Web site	6.13	5.95	0.18
5.83	Institute specific pricing offered	5.69	5.67	0.02
5.07	Oligo design expertise	5.68	5.45	0.23
6.36	Quality control procedures	6.03	6.37	- 0.34
6.50	Quality guarantee	6.11	6.44	- 0.33
4.10	Sales force	5.23	4.55	0.68
4.94	Same day delivery	5.39	5.23	0.16
5.54	Technical service/support	5.76	5.70	0.06
6.37	Timeliness of delivery	5.95	6.29	- 0.34
6.30	Value for price paid	5.99	6.19	- 0.20
5.76	Overall Means or P-E GAP	5.84	5.83	0.01

The GAP Map [Figure 2 below] is the pictorial representation of the above table with the P-E GAP on the vertical axis and importance on the horizontal axis. The four quadrants are based on the intersection of the overall importance mean and the P-E GAP, 5.76 and 0.01, respectively.

As seen, performance is lower than expected [a negative P-E GAP] for the following attributes that have higher than average importance:

- Timeliness of delivery [-0.34]
- Quality control procedures [-0.34]
- Quality guarantee [-0.33]
- Accuracy of shipment [-0.22]
- Value for price paid [-0.20].

Respondents are not getting what they expect from this set of above average important attributes.

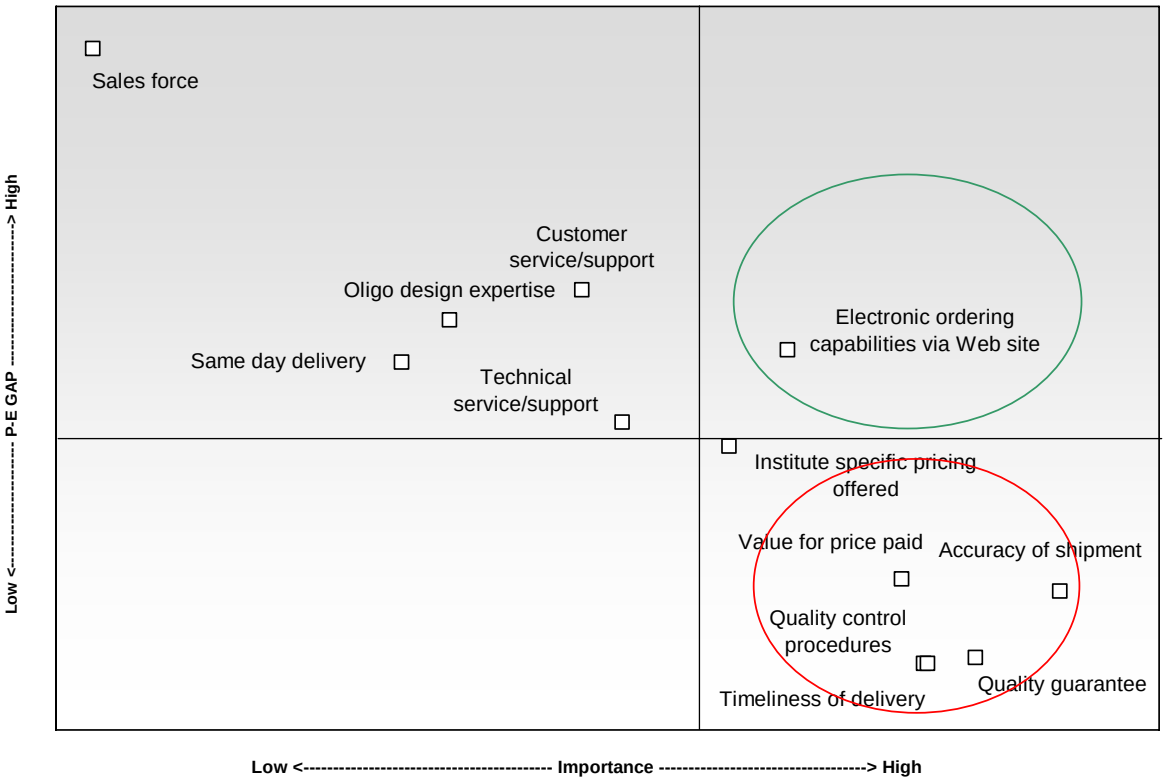
On the other hand, performance is higher than expected [a positive P-E GAP] for:

- Sales force (0.68)
- Customer service/support (0.28)
- Oligo design expertise (0.23)
- Same day delivery (0.16)

But, compared to several other attributes, these are relatively unimportant.

The only supplier attribute that is both deemed as being important and meeting the P-E Gap expectations is E*lectronic ordering capabilities via the Web site*

Figure 2: P-E GAP Map



GAP Analysis is but one tool that provides insight into a means of evaluating brands based on attributes that are crucial to selecting a supplier.

While performance alone is a significant criterion for selection, the addition of expectation and importance into the equation adds far greater information to making the final decision.