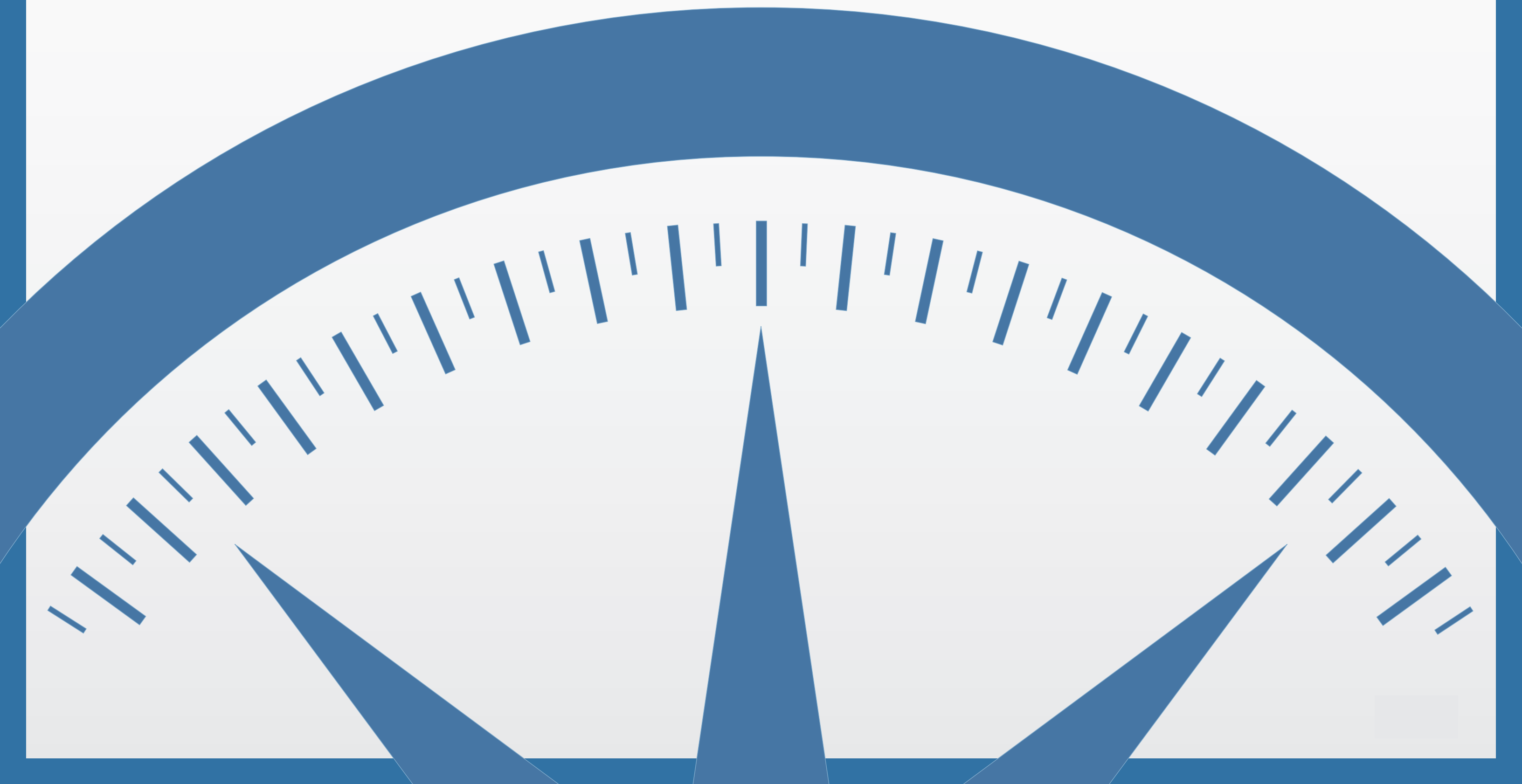
Interactive Advertising and the Optimal Marketing Mix

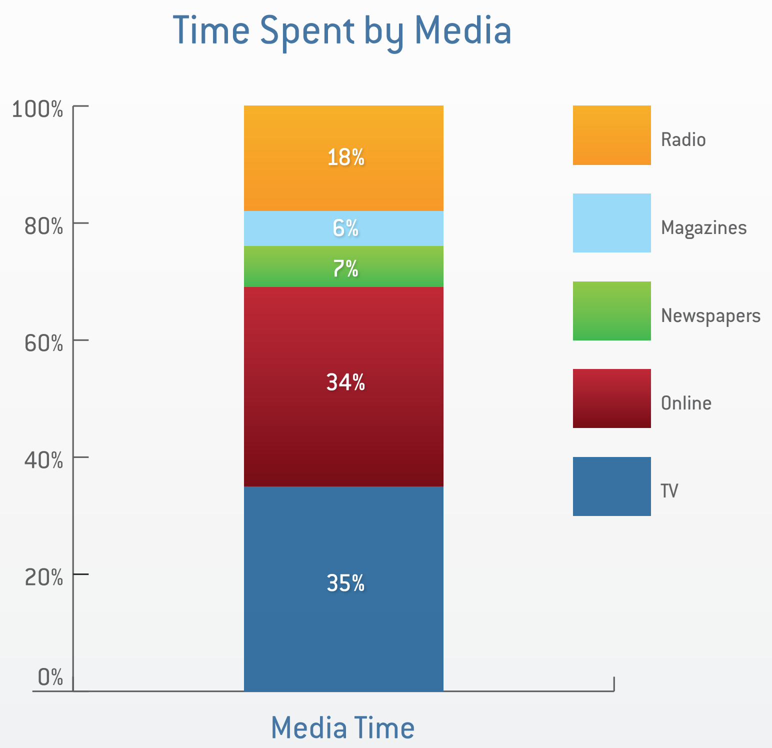
MarketShare Partners in collaboration with the IAB



I. Introduction

Marketing decision making has become substantially more complex over the years. Compared to 20 years ago, there are now many more marketing vehicles available to deliver messages, but at the same time consumers' attention is being split between even more sources of information and entertainment as well. Gone are the days when a marketer could focus on a few big "buckets" such as TV, print and radio and feel confident that they were reaching their consumers. Gone too are established metrics to assess how well they accomplished this goal. Today's marketing executives have to contend with distracted audiences, disruptive technology, more media vehicles and increasingly complicated metrics. In addition to traditional vehicles, relatively new marketing vehicles such as online display, paid search, mobile, and social media are available and growing rapidly. In fact, expenditures on interactive advertising surpassed radio in 2009, and are projected to pass magazines in 2010, and newspapers in 2011.[1]

While many marketers realize that there is more competition for consumers' attention, they are unsure about how to best allocate their marketing dollars to gain this attention. As illustrated in the following chart, consumers have become increasingly focused on the internet as a source of both information and entertainment, at times consuming this medium alongside other media, and other times at the expense of time spent with other vehicles.



Source: Forrester Research: North America Technographics media survey 2009 - base US adults, eMarketer, MSP analysis

1. "*Thriving in Any Environment Customer Experience as the Next Frontier of Competitive Advantage*," Jeffrey F. Rayport, MarketSpace LLC, YPO WPO Global Leadership Summit, Barcelona, Spain, February 26, 2010.

With the popularity and growth of the internet, consumers have become empowered with more information. And with social media sites, they have gained the ability to easily share their thoughts with others. Additionally, advancements in technology such as DVR have given consumers more control over their media consumption and, in some instances, the ability to block or skip over ad messages targeted to them. To be successful, marketers must find a way to make the best use of their marketing dollars, which means understanding how to best allocate their budgets across the multiple vehicles available to them. This is made more complicated by the fact that there are not clearly established metrics for measuring the impact of certain vehicles, such as social media, on sales. Historically, advertising metrics have focused on GRPs or number of impressions in the target population. Yet, not every minute of consumer time spent on media vehicles or every second of their exposure to advertisements leads to sales. Marketers and industry analysts should increase their focus on how dollars spent on advertising lead to revenue dollars.

While many of the internet's benefits are often measured differently than traditional media, these benefits are still concrete. Instead of having to communicate with a broad audience, the internet creates the opportunity to reach smaller, more targeted audiences, whether demographically or geographically. The popularity of social media sites has increased the speed at which word of mouth can spread, which can be both a blessing and a curse. The medium offers several different formats that provide a more interactive, engaging dialogue with consumers than those available via traditional vehicles.

Industry stakeholders seek proper attribution and optimization of both offline and online marketing

Now, with 16 years of experience with internet marketing and sizeable investments in advertising, industry stakeholders are seeking proper attribution and optimization of both offline and online marketing spend. Especially in the current economic market environment with more accountability, CMOs want a better measure of the return on their marketing investment. Does advertising impact sales? If yes, how much should be spent on TV? What about online display? Do I still need print ads?

There is a need to identify the best ways to combat competitive marketing efforts through more effective and efficient marketing, which includes matching the marketing vehicles selected to the type of products and consumer segments targeted. Optimizing allocation across regions, consumer segments and available media vehicles is imperative, therefore, understanding the impact each medium has on revenue is key.

While most marketers and industry analysts agree that the need for attribution across the different media is important, with the growth of new venues such as the internet and the growing popularity of sponsorships, analysis of advertising's impact on revenue and profit has become more complicated. There has yet to be established a standard metric for measuring the return on interactive advertising, sponsorships or social media marketing. Further complicating the issue of attribution is the cross effect of the various media.

For example, individuals see TV commercials, which then prompt them to research the product online, where search or display ads may grab their attention with more information. This activity often results in a purchase online or in store. How do you measure the effect of the TV commercial versus the search ad? How do you know if customers purchase something in a store because they saw a search ad online? And then there is also the issue of quantifying the effect of elements beyond the marketer's control, such as the economy.

The purpose of this paper is to provide insight and demonstrate how marketers can make more informed marketing decisions. Rather than using intermediate metrics such as GRPs or reach as outcomes measures, we directly connect dollars spent on advertising to revenue dollars. To achieve this objective, we will leverage Compass^{SM}, proprietary software system created by MarketShare Partners, based on marketing science and real life business intelligence. Given a set of situational factors, this expert system can be used to estimate required changes in marketing spending that will generate greater revenue or enhance profitability. We will explore the relationship between marketing and sales, present an analytical framework for assessing marketing drivers, discuss how various forms of media, particularly online and offline, work together, and introduce the core concepts underlying the Compass^{SM} software.

It is important to note that the Compass^{SM} recommended optimal mix will vary significantly for different cases. The optimal mix depends on product/service type, brand attributes, life stage of the offering, nature of the competitive environment, and the typical consumer purchase cycle and considerations to name a few. Past analyses have found recommendations for interactive as a percentage of total advertising as low as 10% (e.g. utilities and certain pharmaceutical companies) and greater than 70% (e.g. new dvd and video game titles, etc.) given the previously mentioned considerations. This paper will explain how the characteristics of the brand, product, and its target consumer will influence the recommended optimal mix for three selected industries.

We will use the model to analyze archetypical scenarios drawn from the CPG, financial services, and automotive industries. These categories were selected because of their relevance across the marketing landscape as well as unique aspects of these industries' go to market channels and consumer purchase considerations. The hypothesis was that these three categories offered important room for improvement in optimizing their marketing mix, especially in the area of interactive. According to TNS, these examples represent three of the top ten categories of spending on advertising in 2008, accounting for between 7% and 11% ($10 billion to $16 billion) of total advertising spend. The analysis presented in this paper illustrates Compass^{SM}'s recommendations regarding how to optimize investments across different media as well as several key points regarding the role of online search and display advertising in building brand equity and promoting sales. We expect that this paper will help lay a foundation to better understand marketing drivers and support better marketing decision making.

II. Theory and Methodology

Traditionally marketers used and focused on "one-step ahead" metrics:

- Does an offline campaign improve or sustain brand awareness?
- Are customer perceptions of a brand impacted by the campaign?
- Does an online campaign improve traffic or click through rates to the brand site?
- Does online spending drive sales online?

In contrast, today's business leaders require a clear, causal bridge between marketing spend and economic results – specifically how marketing affects revenue and profits. It is important to know how many people are watching an ad or clicking on it, but the ultimate measure of success is how revenue and profits are affected.

Key marketing principles

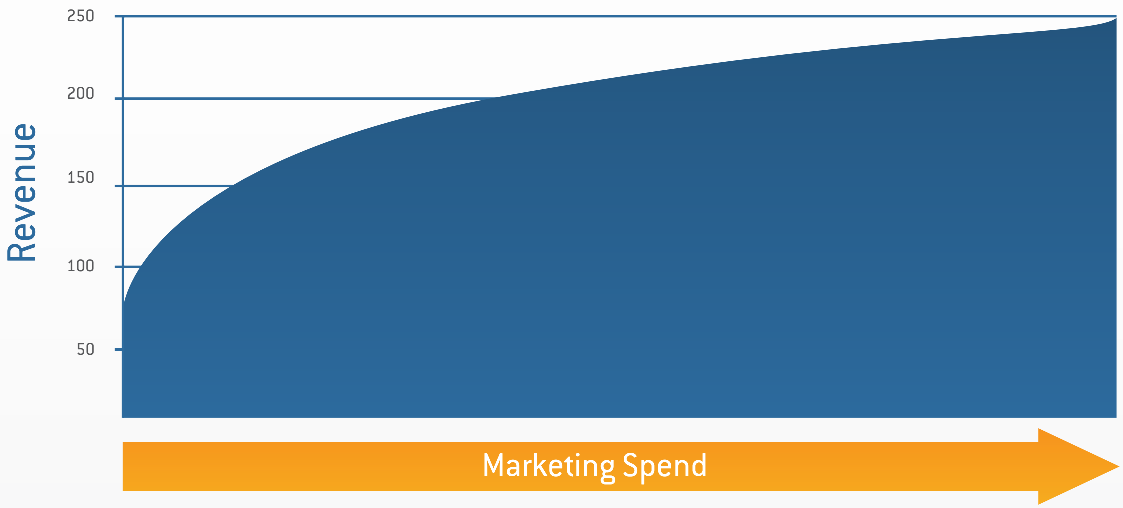
There are three key marketing principles which underlie the analytic bridge between spending and sales revenue:

- Diminishing economic returns;
- Interactions and synergy;
- Separation of causality (base, internal and external factors).

These principles have been validated through academic articles and hundreds of real life applied case studies.

Principle 1.

There have been multiple studies performed on the relationship between advertising and sales. Typically, each type of marketing resource exhibits diminishing returns.[2] What this means is that if Brand X spends $3 million on advertising and realizes $100 million in sales revenue, then if Brand X spends an additional $3 million on advertising, the resulting additional sales will be less than the first wave – namely less than $100 million. Therefore, the Revenue/Marketing Spend graph typically looks like the graph below.[3]



Source: MarketShare Partners

Principle 2.

Each marketing resource (offline, online, other) works "synergistically". This means that resources work multiplicatively with each other. [4] That is, offline spending makes online spending go further and boost sales more and vice versa. In a recent study of a large investment firm offering portfolio management and brokerage services, MSP was able to show the synergistic effects of advertising across different media. This study and others have demonstrated that the effectiveness of the combination of online and offline marketing is greater than the solitary effect of any individual medium.

The implication of synergy is, for example, that you will get a bigger boost to sales from an additional dollar spent on interactive if you are also advertising on TV. But, how exactly do offline and interactive advertising work together?

2. Vakratsas, Demetrios, and Ambler, Tim (1999) "*How Advertising Works, What Do We Really Know,*" Journal of Marketing, 63 (1), 26-43.
3. Tellis, Gerard J., and Ambler, Tim, *"The Sage Handbook of Advertising"*, Sage Publications, Los Angeles, 2007, page 257.
4. Bucklin, Randolph E., "*Marketing Models for Electronic Commerce,*" B. Wierenga (ed.), Handbook of Marketing Decision Models, Chapter 10, Springer Science Business Media, LLC 2008.

Offline marketing can help secure and gain customer attention. At the point where consumers are exposed to offline marketing, they often require more information about the category or brand. This exposure piques interest and creates inquiries and information search with family and friends, site visits, internet research, retail store visits and more. Online display and paid search, as well as new media platforms (like search, mobile, and in-game advertising), then convert attention and discovery to action (and sales). The reverse could happen as well. A consumer might first see an online display ad and then pay more attention to a local newspaper ad with more details about the product. Online and offline marketing also make sales force efforts more productive. Sales force efforts then convert relationships into revenue. When marketing and sales resources are aligned, each is more effective.

For example, a camera company is launching a new brand advertising campaign. This campaign impacts search engine query volume on specific branded and generic keywords (e.g. digital, camera, pictures, photos, and other campaign-related imagery & messaging cues, etc).

Although search volume on these keywords is impacted by many factors, including stock market growth, consumer confidence and seasonal trends (such as Christmas season), MSP's analytics have found that there is a significant causal link between the firm's offline media spending and branded search volume on search engines. This link indicates that offline marketing efforts help drive branded search volume. Once a potential customer researches a digital camera online, the paid search ad bought by Brand X might catch her eye and upon clicking on the link and learning more about Brand X, she may decide it looks interesting and consider purchasing it.

Direct and Indirect Effects of Marketing

Source: MarketShare Partners

Marketing of all types, such as online display ads, TV commercials, and print ads, directly and indirectly affect sales. (See chart above.) Some marketing directly influences consumers to go out and purchase the product. That is, consumers see print ads or TV commercials or receive an email about a sale and then go to the store and buy the product or they order it online. Sometimes, the ads simply put the brand in the forefront of the consumers mind so that when they are ready to make the purchase, whether it is one day, one week, or one month after they saw the ad, the brand is the one that comes to mind.

Marketing also indirectly affects sales in two main ways. The first is that marketing indirectly affects sales by generating internet activity such as searches and social media activity which lead to more purchase/sales. For example, consider if I am looking at my friend's photos on a photo sharing website and at the top I see an ad for a digital camera. I might click on it and read about it and then share the link with friends or post a request on a social networking site asking friends for reviews. This might eventually lead me to purchase the camera online or in the store. All of these different paths are ways that marketing affects sales.

The second way is through discussion of the purchases/sales. The resulting purchases/sales from the original marketing indirectly increase future purchases/sales since they generate online research, where users are exposed to online advertisements and online buzz, which leads to more purchases/sales. For example, assume I just purchased a camera and I really love it, so I tell my sister, who does research online to get more information and comes across an ad for it. She is happy with what she learns and then she goes out and buys the camera.

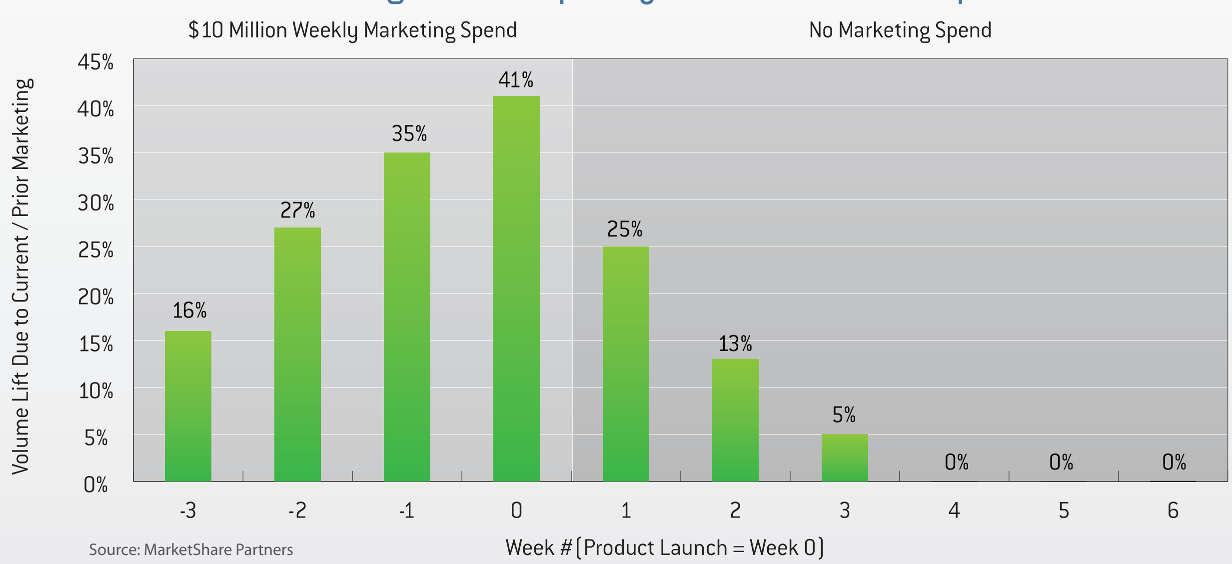
Principle 3.

Sales revenue is comprised of 2 main components. One component is the Base, which involves external factors such as the economy, industry and local market trends, as well as internal factors such as longer term brand equity. The second component, we call Marketing Impact, is the everyday impact of all marketing resources, examples of which are print, TV, paid search, display, radio, and sales force and trade promotions.[5]

Other key considerations when analyzing marketing and its effect on sales:

1. Marketing resources typically engage quickly and yield customer responses in a few weeks or sooner. There is a big boost to sales when marketing resources are initially spent. Similarly, the impact of marketing resources decays quickly. The chart below depicts typical marketing lift and decay patterns. In weeks -3 through 0, the Company spends $10 million per week. After launch of the product, within 3 weeks, ad spend drops to zero. Through MSP analysis, we are able to attribute future sales to prior marketing spend. One can see that marketing expenditure during the week that ad spending began gave a strong boost to sales and continued to build. For example, the $10 million during the first week of marketing spend (week -3) eventually had a 16% lift on revenue. However, once ad spending stopped, the benefit to sales was gone in 3 weeks.

Marketing lifts fade quickly without sustained spend



Source: MarketShare Partners

5. Hanssens, Dominique, "*Models for the Financial Performance Effects of Marketing*," B. Wierenga (ed.), Handbook of Marketing Decision Models, Chapter 15, Springer Science Business Media, LLC 2008.

2. The effect of marketing on a new brand is higher than the effect on an older brand. That is, the same money spent on advertising for a new product or innovative product yields a greater lift to sales than when the same amount of money is spent on advertising for an existing product. This implies that it is most efficient to shift advertising resources to the early stages of a products' life cycle.[6]

III. Compass and Examples:

About Compass℠

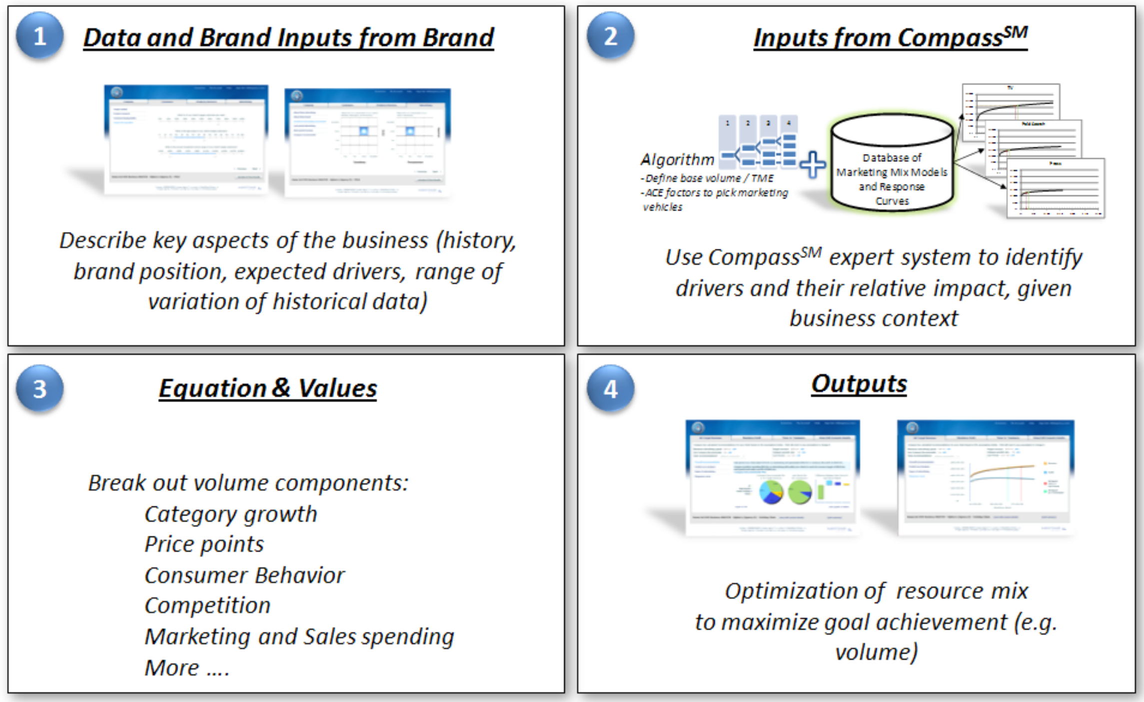
Compass℠ is a marketing analytics expert system developed by the marketing scientists, practitioners, and agency executives of MarketShare Partners. Building on the sales/revenue model previously explained, Compass℠ uses advanced econometrics to connect a company's marketing investments with its revenue and profit. Using historical data relating to sales and advertising expenditures and information about the brand and its consumers, the system recommends the optimal marketing budget, mix and spend by media vehicle with a focus on targeting revenue or maximizing profit.

Compass℠ uses data from thousands of marketing optimization models of real world products and services offered by major players across multiple industries representing over 45 countries with actual online (search, display, social, video) and offline advertising spend. This application provides answers to critical questions like "How much should I spend on advertising?" and "Which types of advertising should I use?" and "How much should I spend in each medium in order to reach my revenue goal or to maximize profit?"

Compass℠ has been tested for accuracy on multiple real life scenarios. The analyses, insights and recommendations based on Compass℠, have been validated extensively for clients, including a consumer electronics company with 16 lines of business in 60 markets globally, the launch of a high end luxury car, a new product extension for a major office supplies manufacturer, and a number of specialty retailers. In one instance, an agency tested the model on over 50 media plans for different products, the actual marketing spend by medium was entered into the system and actual revenue was compared to what Compass℠ predicted given the inputs previously entered. On average, the predicted revenue was within 5% of actual revenue.

Our analysis using Compass℠ involved four steps: (1) MSP researched the sales and advertising spend inputs for the different industry examples using public, as well as proprietary data and entered inputs in to Compass℠. (2) Using the inputs, identified the optimal media drivers for each industry example based on their combined effectiveness (economic impact) and efficiency (e.g. CPMs). (3) Next, the model calculated optimal advertising spend allocations for each industry example to reach its target revenue. (4) Using these models and their estimates, Compass℠ provided optimal spend recommendations of mix and spend by media vehicle. We were then able to analyze the percentage of marketing spend and the dollar amounts recommended for each media driver as well as the increased efficiency and revenue benefit of allocating the marketing budget optimally. (See exhibit, next page)

6. Hanssens, Dominique, Parsons, Leonard J., and Schultz, Randall, (2001), "*Market Response Models Econometric and Times Series Analysis*", 2nd Edition. Boston: Kluwer Academic Publishers, p.332-333.



Source: MarketShare Partners

Industry Examples

> Optimal marketing spend allocation depends on the type of product and decision making process of the consumer.

In this section, we summarize three examples which show how offline and online marketing investments interact. Each brand in these case studies has a target customer base, but is looking to grow its market share and reach its target revenue in the following year. The brand managers must decide how to optimally allocate advertising expenditure next period in order to reach their revenue targets.

The decision of how to allocate a company's advertising budget is a complicated one. The ways consumers form opinions and the nature of the experiences they have with any given brand must be taken into account since each of the marketing activities and communication vehicles has differing capacities to deliver image, emotion, information, and experience relating to the product or service itself. For example, a candy company looking to market a chocolate bar may want to convey a feeling of sweetness and energy through its marketing campaign. TV can deliver powerful imagery and emotional impacts. Brands that want to communicate more information about their products, such as cell phones, might include online and print media in their marketing plan to highlight their different attributes and capabilities such as camera and video capability. Brands that need to be experienced by the consumer, such as electronic games or food, might want to use some sampling and in-store displays, as well as leverage new social media and experience confirming tools such as video downloads. Thus, the allocation of marketing spend that is most efficient depends on the type of product being advertised and the decision making process of the consumer. A successful media mix model will recommend an expenditure allocation that takes this into consideration and choose vehicles that communicate the brand in the most effective way.

As discussed in the Introduction, we have considered products from three different industries as examples to analyze: Consumer Packaged Goods, Financial Services, and Automotive.

1. Consumer Packaged Goods (CPG)

Due to increased competition and pressure from the economy, a recent trend in the CPG industry has been for brands to spend an increasing majority of their advertising budget on trade promotions and price discounts rather than to increase advertising budgets focused on brand building. However, it is still crucial for CPG products to invest in building or protecting their brand equity. According to a recent study, store brands gain ground during recessions when consumers are more likely to switch to cheaper alternatives. The results showed that consumers chose the cheaper store brand during a recession and then, when the economy improved, they were comfortable with the cheaper store brand and didn't switch back. Therefore, brands should actually intensify their marketing during a recession to build their brand.[7]

Given that they want to build brand awareness and loyalty, CPG marketers need to determine the best way to allocate their advertising budget. There is a misperception held by some marketers that the internet is not relevant to the decision making process in the CPG industry. While the information that consumers in this industry seek may not be complex, some consumers still research on the internet, even for seemingly simple CPG purchases, as part of their engagement with the brand and interest in the category. Thus, it will generally benefit marketers to have a paid search presence. Additionally, consumers may not be researching information related to the specific CPG product, but they are spending an increasing proportion of their time online. The internet is not only a vehicle that provides information, but a source of entertainment where consumers play games, watch TV, email, etc. This behavior provides an opportunity for CPG marketers to reach and influence them.

The example used to represent the CPG industry is soap. Many of the brands have been around for years and have fairly stable market shares. The representative product is a bar soap sold in drug stores and supermarkets that has a market share of 6% and some loyal consumers, but is not the category leader. The consumer decision of whether to purchase one brand of soap over another is a relatively simple one that tends to be made based on brand loyalty/comfort level. That being said, there is also a rational component to the decision as it relates to product attributes (e.g. wanting a soap that moisturizes and doesn't dry out skin, preferring a liquid soap). Chances are consumers are going to the store intending to buy the brand they always use. However, when they get there, consumers may be reminded of a recent ad they saw online or on TV that describes how a certain brand of soap makes skin look young and feel soft and they consider trying this new brand. Therefore, marketing efforts tend to convey positive brand associations as well as information about the benefits of the soap.

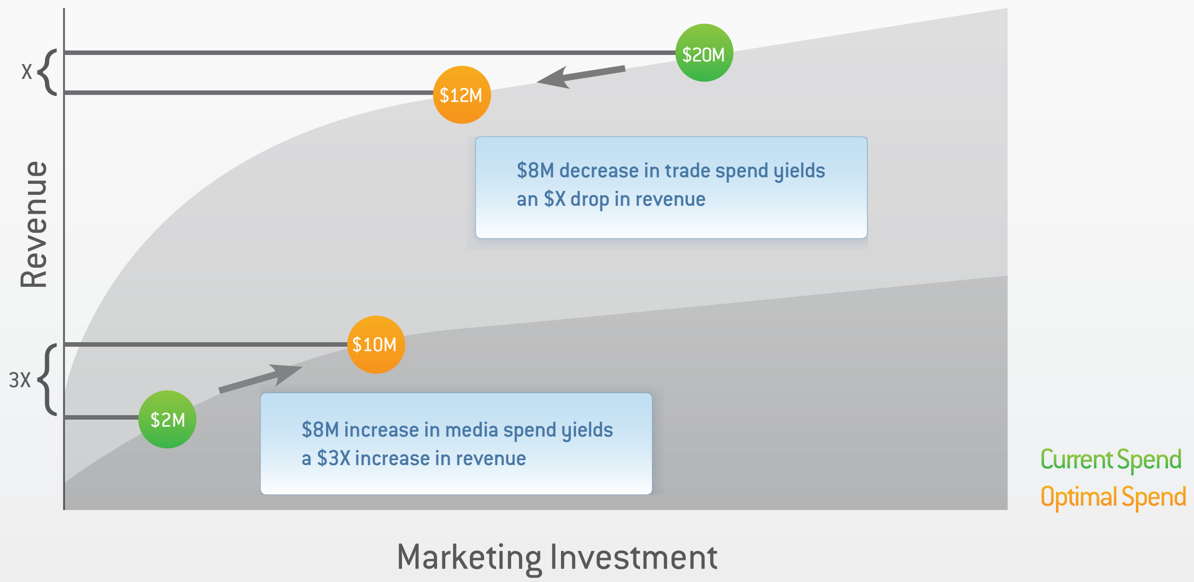
In order to analyze the brand's marketing plan and provide recommendations, information about this representative soap and its target customers was entered into the Compass℠ system. Given target revenue for the next period, Compass℠ then determined the marketing budget necessary to reach the target revenue and the optimal allocation of the marketing budget. The results of the analysis are presented below.

7. Lamey, Lien, Deleersnyder, Barbara, Dekimpe, M.G., Steenkamp, Jan Benedict, E.B.M, "*The Impact of Business Cycle Fluctuations on Private Label Share,*" ERIM Report Series Reference No. ERS-2005-061-MKT.

Balancing Investments to Maximize Returns

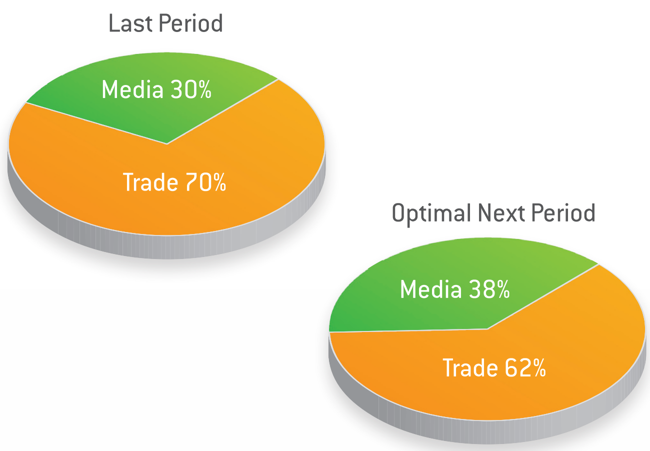
One critical decision this soap brand manager must make is how to allocate the budget between the two forms of marketing, trade promotion and media spending or advertising. Media spending generates brand awareness and draws customers into the stores asking for a specific product. Trade spending helps to push or sell products on the shelves. The amount of money any one brand must dedicate to trade spending (point of purchase displays, temporary price promotions, end caps, etc.) is contingent on many different product characteristics such as size of the brand compared to its competitors, position in its product life cycle, and the trade intensity of the category itself.

Historically, marketing decisions for this soap brand have been driven by the desire for short term sales volume as opposed to growing brand equity. The soap brand has spent the majority of its marketing dollars on trade promotion, focusing on moving the product on and then off the shelves. The soap company currently spends 70% of its marketing dollars on trade promotion with the remaining 30% of the budget spent on marketing to the consumer. It is important to consider the key principle that marketing expenditure has diminishing returns to sales. Where they are on the individual sales curves is essential in determining the optimal allocation between trade and media (see illustrative graph below.) In this illustration, trade and media have similarly shaped curves. One can see how return on investment is diminishing as marketing investment in each vehicle increases. The trade curve is above the media curve, so if they are currently not spending any money on either and have $100 to spend, they should spend it on trade since an initial investment in trade will yield greater revenue. However, if they are already spending on trade and media, where you are on the curves is key to determining your optimal allocation. This graph represents a brand that is far out on the trade spending curve, but not very far out on the media spending curve. In this example, given how underutilized media is and that the brand is overspent on trade, a shift of dollars away from trade and toward media is a more efficient allocation of resources. If this brand were to shift $8M from trade to media, they would have a net gain of 2X revenue. At a more granular level, appropriate channeling of trade budget reallocation will ensure minimal retail impact.



Source: MarketShare Partners

Given the soap brand's position on the trade/sales curve and the need to grow brand equity, the company should shift some dollars away from trade promotion and toward media. See pie chart below:



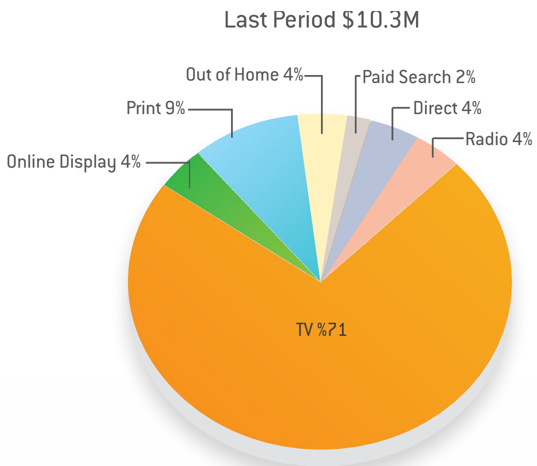
While the initial allocation of marketing dollars between trade and media is important, the remainder of our CPG example discussion will focus on optimally allocating media spending. The table below represents examples of some of the inputs for the soap archetype. Based on information provided relating to the company and its consumers, Compass[SM] analyzed the data and estimated an optimized allocation of advertising expenditure.

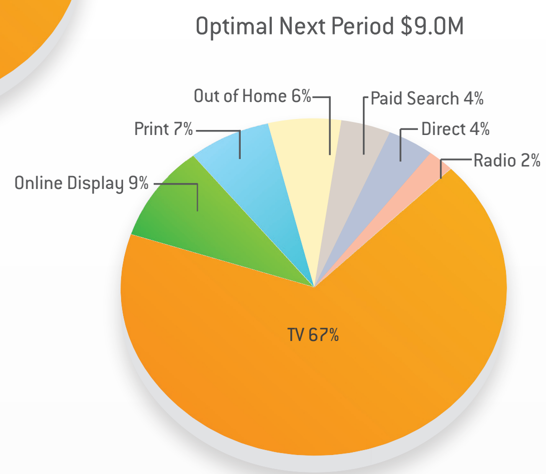
Sample Inputs (not exhaustive)

Area	Input
Type of Business	CPG
Last Period Ad Spend	$10.5 million
Last Period Revenue	$150 million
Expected Market Growth	2%
Next Period Revenue Target	$159 million

Other inputs include target consumer characteristics, elements of the consumer decision making process, brand advertising frequency, level of brand awareness, and degree of product innovation.

The chart on the next page depicts the brand's last period advertising allocation and the recommended optimal allocation for next period, given the assumptions that the category will experience 2% growth in the upcoming year, and that the brand seeks a 6% increase in revenue. The brand's last period revenue was $150 million, and media spend last year was $10.3 million. While they use a number of vehicles, marketers of this soap brand have historically spent most of their advertising budget on TV. This brand spent 71% ($7.4 million) of its advertising budget on TV, followed by 9% ($0.9 million) on print. The brand also spent a small portion of the media budget on online display, paid search, out of home, direct email and mail, and radio.





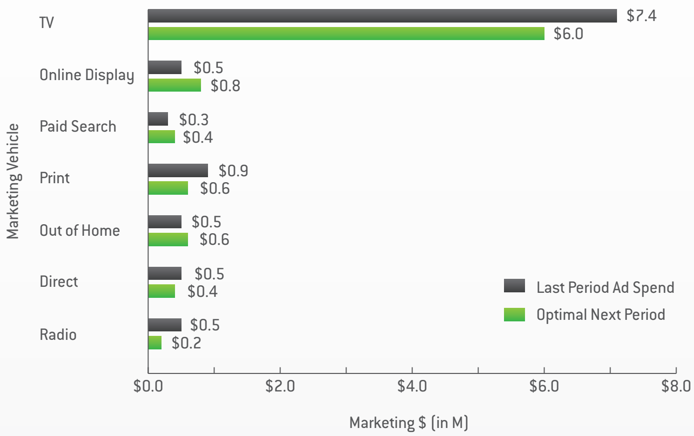
One can see that in order for the brand to reach its revenue target next period, the model actually recommends spending less money than the brand spent in the prior year. If the marketers had stuck with the marketing plan from the prior year, they would have been overspending. One of the key principles behind our analysis is that all advertising media have diminishing returns. While TV is an effective medium, sometimes a brand is spending such a large portion of its budget on TV it is too far out on the advertising spend curve and the marginal benefit of an additional dollar on TV is less than the marginal benefit of spending that dollar on another medium. In addition, as we mentioned in the second key principle, because of the interaction effects of the different media, it is important to allocate advertising expenditure to other media besides TV in order to further leverage TV's effectiveness. A presence in different media contributes to making the advertising in each more effective. As such, given the placement on the diminishing returns curve for TV and the incremental benefit of the additional vehicles, Compass^{SM} recommends that a shift from TV to other media vehicles will be a more efficient use of the advertising budget. The recommendation is for TV to shift from representing 71% of the total budget to 67%.

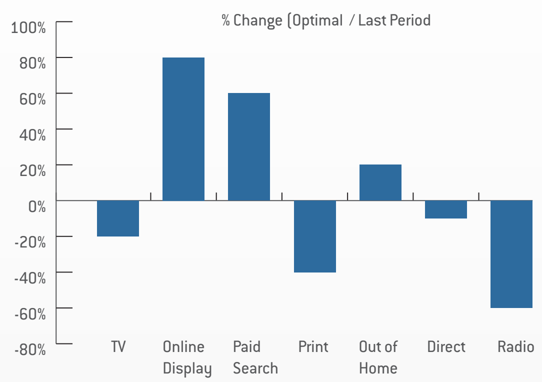
Compass^{SM} specifically recommends shifting marketing dollars to online, utilizing paid search and online display resulting in an overall interactive ad spend of more than double, with paid search going from 2% to 4% of the budget and online display growing from 4% to 9%. While we acknowledge that soap doesn't require as much research as buying a car or a dishwasher, potential consumers still might search for information online. For example, prior to making her grocery list or completing her online supermarket order, a consumer might research online for "all natural soaps" or "soaps with aloe" as she is environmentally conscious or has sensitive skin. When she types this into her chosen search engine, paid search ads appear that might grab her attention and she could click on the link and learn enough about a brand to include this in her purchase or add it to her list.

With consumers spending an increasing amount of time on the internet, online display ads are also essential since they help keep the soap brand top of mind. Consider an all natural soap marketed to environmentally conscious consumers. Online display banner ads on websites covering environmental issues or providing tips on how to be green can be an efficient way to reach the target consumer. Furthermore, display ads can be placed on supermarket websites so that they reach the consumer at point-of-purchase. The soap brand can also utilize social media tools and platforms to have more direct relationships and communication with current and potential customers by sharing phones, videos, and links that represent their brand image and responding to customer complaints and compliments.

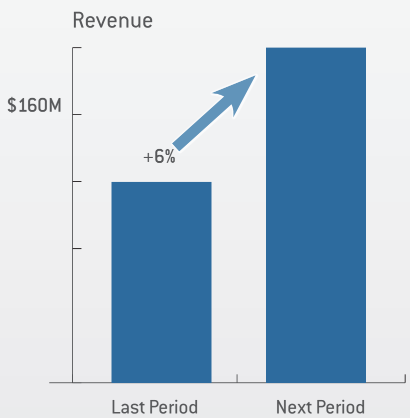
When seeking to optimize marketing allocation, it is important to remember that there is a benefit in better matching the brand's message to the vehicles being used. In this instance, Compass[SM] recommends shifting some money toward online from print and radio. One reason for the prescribed shift from radio is that radio is often used as a call to action, a call to consumers to come to the store for a big sale or promotional event, not as a way to inform consumers about the benefits of a new product. The shift away from print, primarily newspapers, is because newspapers are more effective at conveying information and the decision of which soap to buy is not one that requires a significant amount of information.

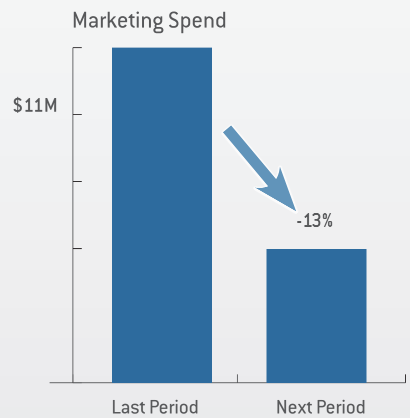
Earlier we referenced the percentage shifts in the media allocation, below one can see the shifts in actual dollar values allocated to each medium.

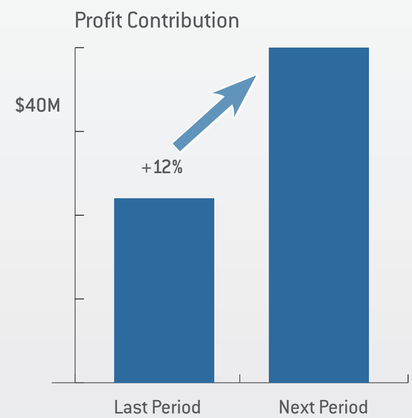




Because of the increased efficiency associated with optimally reallocating advertising dollars and the expected category growth of 2%, the representative soap manufacturer can actually decrease marketing spend and still reach its next year revenue target of $159 million. The optimal reallocation results in a target 6% increase in revenue, a 13% decrease in marketing spend and a 12% increase in profit. Big increases in online search and display advertising are key to achieving this optimal result.







2. Financial Services

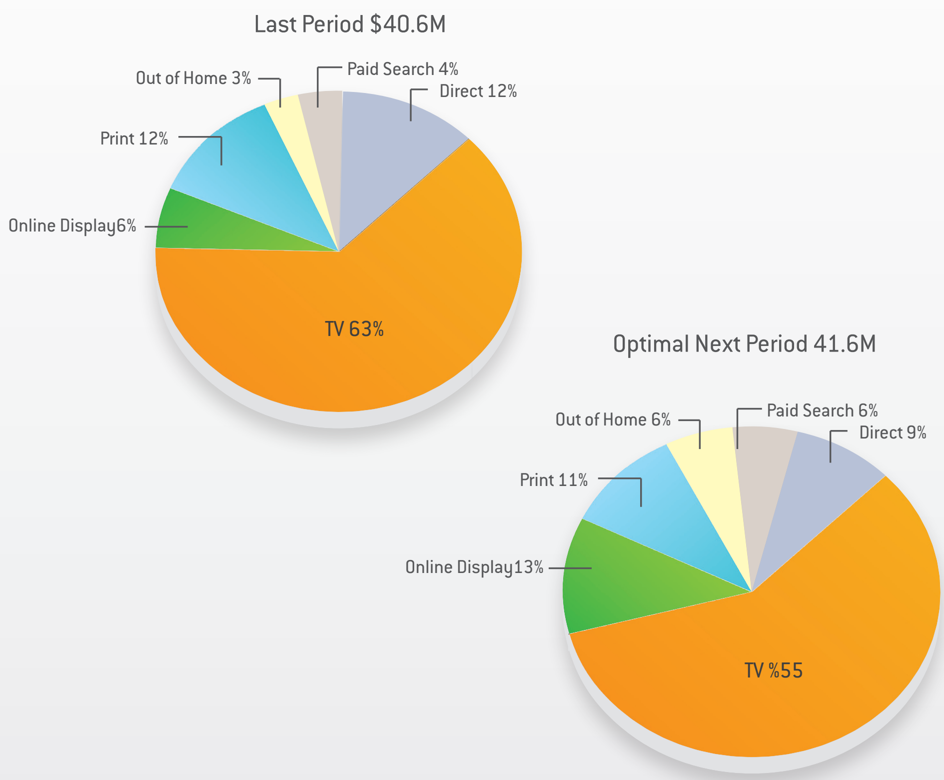
In the financial services industry, high brand awareness and positive brand associations (whether real or perceived) can attract new consumers. Given that consumers are often investing money for their retirement or their children's college education, a feeling of trust is also important and this may be established by creating emotional connections with specific brands. Investors look for brands that provide higher returns, more reliability, friendly and caring nature, and better access. Well placed online display ads on investing websites or websites where target consumers might be viewing news and entertainment can help grow positive brand equity. Furthermore, choosing a bank to invest with is a decision that involves information gathering. Potential consumers may want to research past returns, commissions, maintenance fees, and availability of investment advice before selecting a bank. It is important to have paid search ads to capture the attention of the increasing number of consumers conducting research online to compare options of banking services.

The representative example used for the Financial Services category is a national consumer bank that sells investment services as part of their portfolio of offerings. Target consumers range in age from 40-70. In this difficult economy, banks are having a hard time getting new customer accounts since fewer customers are interested in investing in the current volatile market. The bank has been around for decades and the initial investor commitment is usually around $10,000. Given the size of this investment, it is understandable that consumers want to make informed decisions.

Information about this bank and its target customers was entered into the Compass℠ software to analyze marketing spend and determine the optimal allocation of the marketing budget for the next period given the bank's revenue goal. The results of the analysis are presented below.

Balancing Investments to Maximize Returns

The charts to the right depict the brand's last period advertising allocation and next period's optimal allocation. In the last period, the brand spent $40 million on advertising and generated $2 billion in revenue. This brand is similar to the soap example in that it spent the majority of its advertising budget on TV and smaller percentages on other vehicles. The bank spent 63% of its total budget on TV, followed by 12% on both print, and direct mail/email. The brand spent the remainder of the budget (approximately 13%) on online display, paid search, and out



of home. Given the assumptions that the category will shrink another 3.5% in the upcoming year, and that in the face of the market shrinkage, the brand hopes to attain a 2.5% increase in revenue, Compass^{SM} made recommendations of the optimally allocated marketing budget needed to achieve this goal in the next period.

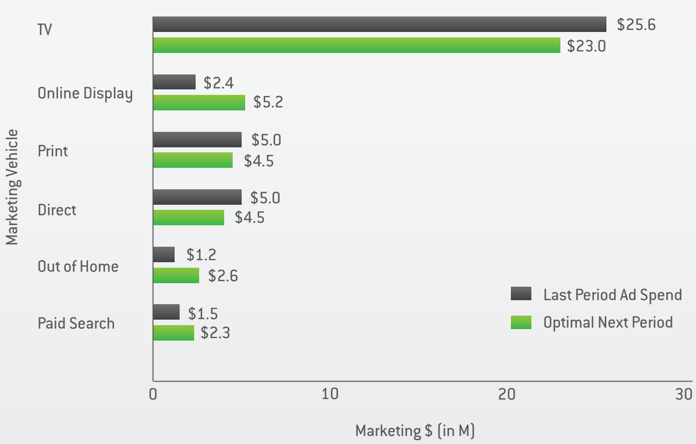
As with the soap brand, the financial services brand is over invested in TV. They would get a higher marginal return from shifting some dollars to other media. TV is still essential in conveying emotion and reliability. Compass^{SM} recommends that this brand spend 55% of next year's budget on TV as opposed to 63% in the prior period. The model further recommends shifting marketing dollars from offline to online vehicles.

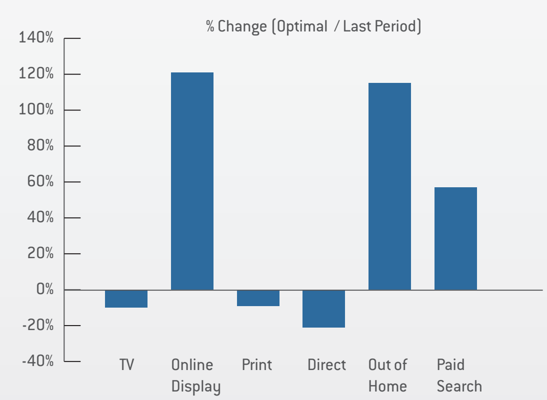
The internet is growing in importance as a source for researching where and how to invest. Banks should attempt to ensure that consumers who are researching online for investment options are drawn to their website by using online search appropriately. According to the Pew Internet and American Life Project, in April 2009 about 57% of US adult Internet users banked online. Adoption of online banking has risen steadily since March 2000, when the corresponding figure was just 17%.[8] Therefore, an online search presence is extremely beneficial for growth in the financial services industry. And Compass^{SM} recommends an increase in allocation from 4% to 6% of the total media budget.

Online display advertising is also key to reaching consumers online and Compass^{SM} recommends an increase budget allocation dedicated to online display from 6% to 13%. With the greater ease of finding content on almost any subject, banks need to actively reach out to the audience of potential customers who are searching, reading, emailing, watching video, or networking online. The bank should consider banner ads on financial news and investment websites or short videos praising the banks responsiveness and trustworthiness to draw in consumers. Now it is easier than ever for consumers to widen their pool of consideration. They are no longer limited to their neighborhood bank, now they can easily learn about the bank on the other side of town with better rates and positive reviews.

Compass^{SM} recommends that the bank continue to spend on print. Financial newspapers and magazines are effective places for banks selling investment services to advertise. However, the only offline vehicle that the model recommends actually increasing spending on is out of home. While the internet does open doors to other banking options, some consumers want to stick with a bank that is close to home. Out of home can include billboards or bus stop ads and perhaps appeal to an investor's sense of community and comfort with a local bank. Moreover, out of home ads are visible when consumers are sitting at a red light. They can reach consumers who aren't actively researching banking options, but just can't help but notice the ad as they are waiting for the light to change.

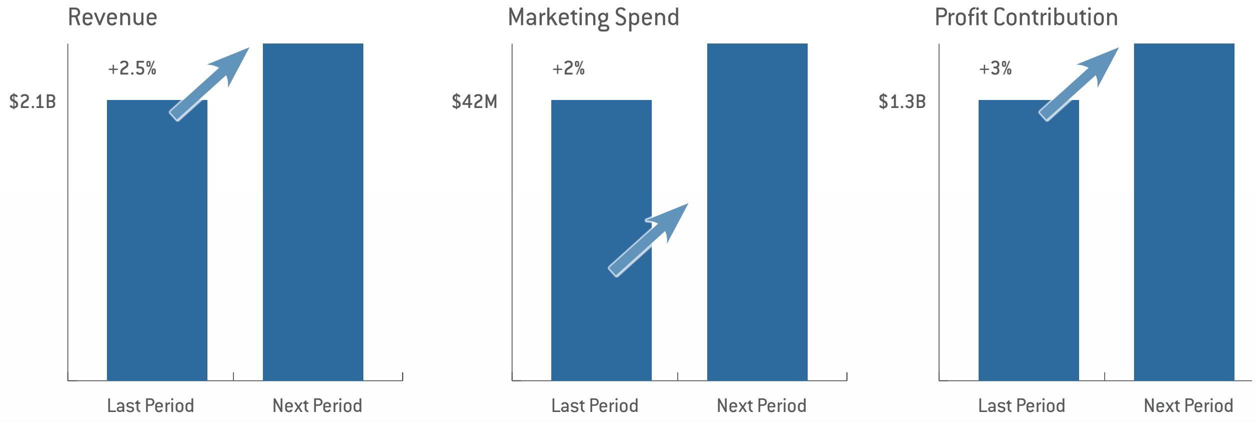
One can see the optimal dollar values for each medium in the chart below.





8. Pew Internet & American Life Project. http://pewinternet.org/Trend-Data/Usage-Over-Time.aspx

The financial services brand's revenue target for the next period of $2.05 billion, a 2.5% increase over the prior year. The financial services category is expected shrink 3.5% in the coming year. In order to reach the revenue goal, Compass℠ recommends that the financial services brand increase marketing spend by 2%, which will also result in a 3% increase in profit.



One might be wondering how the results would differ if the CMO executed the same marketing plan as the prior year. Namely, if the financial institution spent the same amount on marketing, in total and on each driver, as they did in the prior year, what would the revenue be? Although marketing expenditure would be exactly the same as in the prior year, the industry is expected to experience a downturn of 3.5%. The industry downturn is an external factor unrelated to marketing spend that decreases revenue. Therefore, in the next period, the same exact spending would yield revenue of $1.93B as compared to $2.00B in the prior year.

Now, let's consider a scenario where the CMO expects that the financial services industry is going to experience a downturn and decides to keep the same media split as the prior year (i.e. 63% on TV, 12% on print, 12% on direct, 6% on online display, etc.), but increase the marketing budget from $40.6M to $41.6M. Using the Compass℠ expert system, we can calculate that the additional $1M in marketing dollars enables the bank to grow its projected revenue from $1.93B to $1.94B. Again, this is assuming the allocation remained sub-optimal. However, as we described in our analysis above, if the CMO allocates his new budget of $41.6M according to the optimal distribution recommended by Compass℠, he would further increase revenue from $1.94B to reach the revenue goal of $2.05B. As a result, allocating optimally among the different marketing drivers yields a 6% increase in revenue.

3. Automotive

In today's automobile marketplace, the process of how consumers make brand and purchase decisions continues to change. Around the globe, the process of consumer choice for autos has fundamentally shifted. The internet is facilitating comparison shopping and enabling consumers to expand the vehicles in their consideration set because it is so much easier to get information. This access to information from the comfort of your own home is also decreasing the amount of time consumers spend at dealerships.

The example used to represent the automotive industry is a new car model of an established luxury brand, priced at around $60,000, whose target consumer tends to be 35-55, female, and from a higher income household. Although the brand is established, its popularity is below average and the brand manager is looking to maximize ad dollars when launching this new model. Consumers typically lease or purchase a car every 3 to 5 years, so it is crucial to target consumers when they are doing their research prior to making a purchase/lease decision as there won't be another chance to do so for several years. In part, the decision is complex and made rationally, involving research about different car attributes including reliability, performance, and luxury, among other features. However, there is an emotional component to the decision with respect to the image and status that is associated with each brand. Marketing efforts need to provide information about the vehicle and its attributes as well as generate excitement about its style and feel and create/reinforce its brand image.

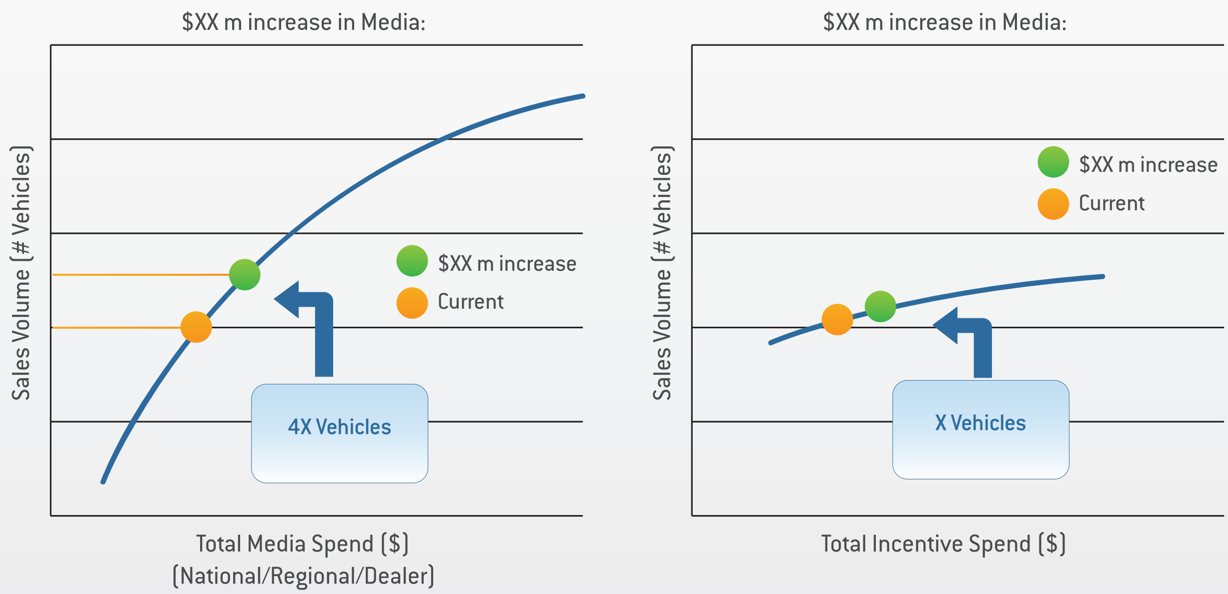
Information about this automobile brand and its target customers were entered into the Compass[SM] software to determine the optimal allocation of the marketing budget needed to reach the company's next period revenue goals. The results of the analysis are presentedon the next page.

Balancing Investments to Maximize Returns

Similar to the CPG marketer's decision of how to allocate his advertising budget between trade and media, a critical decision this automobile company must make is how to allocate its budget between incentives and marketing. All auto companies use incentives to provide discounts and increase sales. While incentives most definitely promote sales in the short term, they do not contribute to brand building. In fact, if overused, they are likely to erode brand strength or equity over time. Additionally, impacts of incentives can differ by model and generational life stage (e.g.. new launch versus a model near the end of its generational cycle).

As with the CPG example, when allocating the budget between incentives and media, it is important to consider the key marketing principle that each category has a diminishing return to sales. Where the company sits on both the media/sales curve as well as the incentive/sales curve determines the shift in marketing spend between incentives and media necessary to reach the optimal allocation. When making this evaluation, it is also important to consider the shape of the incentives curve. Academic research[9] and MSP experience with car brands in over 200 markets in the U.S. and multiple countries including the U.K. and Japan, indicates that for most autos, the incentives/sales curve is much less steep than the media/sales curve. If this is the case and both are at the same level of expenditure, then an additional investment in media will generate a greater increase in sales. (See graph below)

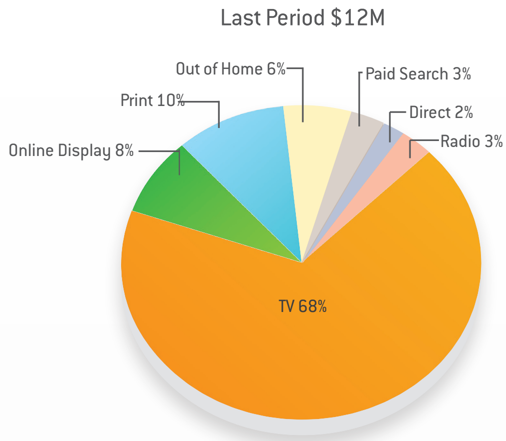
Media vs Incentives – Response Curves

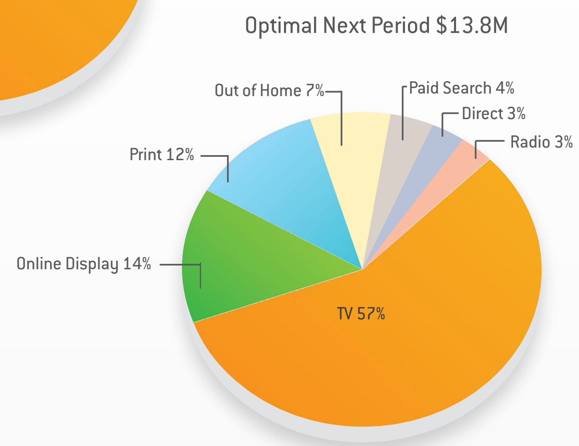


Source: MarketShare Partners

9. Pauwels, Koen, Silva-Risso, Jorge, Srinivasan, Shuba, and Hanssens, Dominique M., (2004), "*New Products, sales Promotions, and Firm Value: The Case of the Automobile Industry*", Journal of Marketing Science, (October 2004), p.142-156.

The charts below depict the brand's last period advertising allocation and next period's optimal allocation. This representative automobile company's revenue was $320 million in the last period and its media spend was approximately $12 million, or 4% of revenue. The company spent 68%, of its media budget on TV. Television spend was followed by print, where the company spent 10% of its budget, and online display (8%). The brand spent the remaining 14% on out of home, paid search, direct mail/email , and radio. Given the assumptions that the category will shrink 3% in the upcoming year and that the brand hopes to have a 5% increase in revenue, Compass[SM] recommended the optimal allocation of next period's budget.



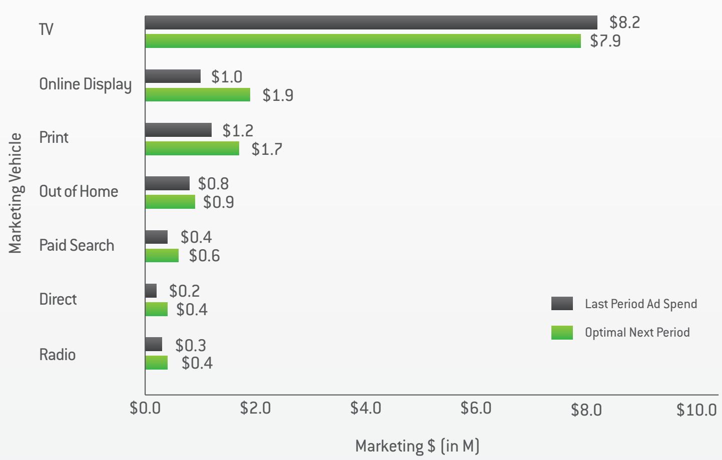


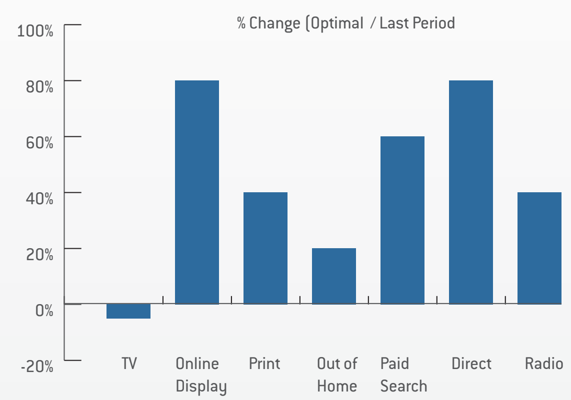
Compass[SM] recommends reallocating marketing dollars from TV, shrinking from 68% of the total budget to 57%, and shifiting more dollars to online media: online display (going from 8% to 14% of the total budget) and paid search (growing from 3% to 4%). Because TV is very visual, it can be used to demonstrate product attributes and the tone of the advertising can create brand image. For most consumers, the process of purchasing an automobile is highly involved and leads them to search for information about the vehicle model, local dealers, prices and incentives, and available financing. In today's media landscape, the internet is the key source for much of this information. Therefore, the brand should have an increased presence in online media to provide the information desired and interact with potential consumers.

In the event that the keyword purchase was too narrowly defined, this brand manager would be wise to review the paid search plan and increase spending. Keywords purchased should include words related to the parent company, the specific make/model, current and past ad campaigns (both for this brand and potentially for key competitors), and more generic car topics such as "high performance," "convertibles," or "SUV." As we noted previously, the internet makes it possible to broaden the consideration set, so brand awareness is more important now than ever, and another online opportunity to create this awareness is via online display ads.

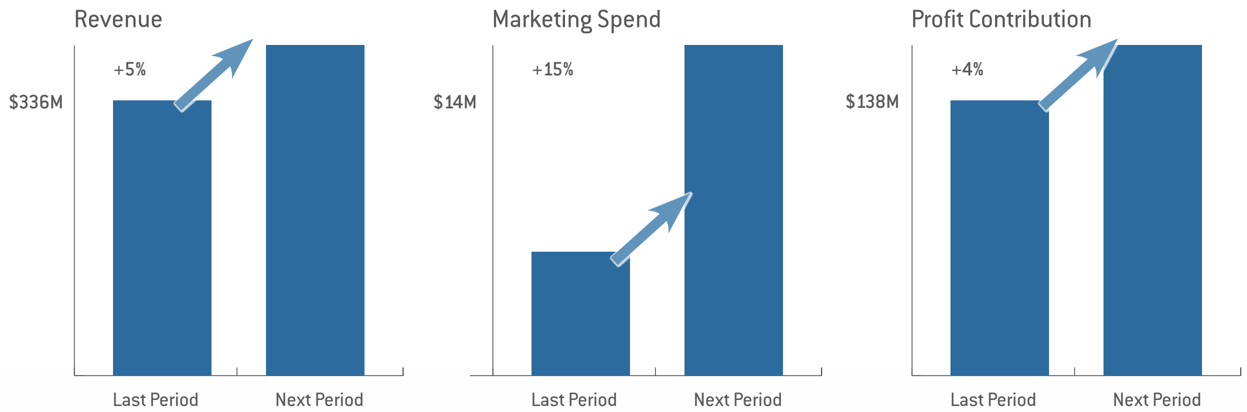
As with other forms of marketing, placement is key and given the multitude of sites dedicated to providing information about car purchases, there is no shortage of placements available for online display advertising. Banner ads that link to informative landing pages with videos and other media can help highlight the performance aspects of the car. Appropriately placed banner ads with calls to action (e.g. promoting weekend specials) can help incentivize potential consumers to make a purchase. In general, potential consumers are online more and more for entertainment and an exposure to an ad helps keep the brand top of mind. People who may be in the market for a car might think to themselves "I forgot about Brand X, that looks like a nice car that might fit my needs and it's less expensive than I would have expected" and now Brand X is in the consideration set. This might, in turn, lead the potential consumer to do further research about the brand. Another valuable aspect of the internet is its role in facilitating word of mouth. One reason for the recommended shift to online display is that the decision to buy a car is an experiential one and advertising online, where people share their driving experiences with one another or can see videos of cars in motion, is an optimal marketing venue.

Compass℠ recommends increasing spending on print ads as well. While the internet has grown tremendously as a source of news, information and entertainment, print is still an effective way for consumers to get information about product features and for local dealers to advertise. There are several publications available for targeted readers who may be in the market for a new car. Ads of cars in newspapers or magazines with glossy pictures and text describing new advanced features are effective ways to generate excitement and brand awareness. Moreover, consumers tend to read print in certain places that are not conducive to using computers, for example, while waiting in doctor's offices, on the subway, or in beauty salons. Not to mention that there are still many who prefer to read their news on paper or curl up on the couch with a good magazine. Print provides the opportunity to reach those consumers. One can see the optimal dollar values for each medium in the chart below.





In order to reach its goal of growing revenue approximately 5%, in the face of a shrinking market, but with the help of optimization, the automobile marketer will have to increase its marketing budget by 15%. The end result is an increase in profit contribution of 4%.



While actual results for different products vary depending on the industry, brand, and target consumer, the three industry examples discussed illustrate some interesting concepts for marketers. First, marketers are right to spend a large portion of their advertising budget on TV. Compass^{SM} recommends that the brand managers in CPG, Automotive, and Financial Services, spend between 55% and 67% of their budget on this medium. Despite the growth of the internet, TV is still an integral and effective advertising medium. The archetypes in these examples are currently spending between 6% and 11% on interactive advertising, under-leveraging their true potential, in particular with regards to how online and offline work together. They should increase their overall spending on search advertising to 4% to 6% of their budget, and increase spending on online display advertising to 9% to 14% of total budget. In total, the model suggests that optimal interactive spend should be between 1.6x and 2.2x the percentage originally allocated to interactive. The internet provides an opportunity to be top of mind while consumers are online doing research, checking email, surfing the web, reading news and blogs, playing games, or watching video. Just 16 years ago these media were not even available, and while their relative effectiveness varies across industries and brands, now they can be a more substantial portion of the advertising budget and have a significant impact on revenue.

As mentioned in the Introduction, it is important to note that the type of product, marketer and goal of the brand will drive changes in optimal allocations, and so the results from these three scenarios can't be generalized to other industries or campaigns. These key characteristics incorporated into a marketing mix model analysis drive optimal allocations that are unique to each brand, budget, and/or campaign goal. While the model's output is specific, the principles of diminishing returns, synergies, and separation of causality are universal, and should inform marketing planning.

IV. Conclusion

This paper offers fact-based analytics to address the value of interactive advertising in optimizing the marketing mix and to drive improved economic outcomes. Based on the key findings from this analysis, marketers should:

- Measure the impacts of all marketing investments, both online and offline, as well as trade and consumer incentives: understand the key elements and dynamics of individual and integrated marketing impacts. Carefully evaluate the impact of incentives and promotions on brand equity. Since advertising has diminishing returns, too much money spent on one medium is not ideal, a diversified portfolio is better;

- Ensure that the overall resource mix incorporates an appropriate component for interactive advertising: it works synergistically with traditional media. Advertising in a variety of media makes each medium more effective. Make sure to close the loop and have a coordinated presence offline and online to ensure that consumers receive the message about the brand and are motivated to purchase;
- Match the media driver with the message: leverage the different media for their relative strengths. For example, print can be more effective for information, radio for a call-to-action, TV for experience and emotion, mobile for time and location dependent information, and online for information and sharing experience;
- Leverage unique aspects of interactive media: online display can be highly targeted, making reach and messaging more precise, granular and relevant.
- Choose paid search terms carefully: think about expanding key words for more general category or thematic search terms to catch consumers that are not necessarily looking specifically for your product or brand. This particularly applies to consumer packaged goods, where individuals don't typically search for a particular brand, but can use the internet to find which brands are available in a certain product category.
- Utilize interactive channels as a powerful source of information about your product: the web provides a valuable opportunity to present your product information as content that consumers can share and discuss. Videos can demonstrate products like TV, and social networking sites can help create buzz and spread awareness about a new product. Brands should exploit the versatility of this medium.

Online is an essential medium for multiple product categories and business archetypes. The extent to which marketers invest in each marketing medium will vary depending on their objectives, product/category and current mix. Given the relative reach and interactive power of online as a marketing vehicle, as well as its synergistic effects with traditional offline media, marketers will find that appropriately balancing resources towards it can maximize impact on revenue and profit.

Appendix:
Compass℠ and its Methodology

Compass℠ is a marketing analytics expert system based on state of the art marketing science and business intelligence using decades of research and analysis on marketing efficiency. The Compass℠ library currently includes over $100 billion in advertising spend and over $800 billion in revenue for major companies in 15 of the 16 key industry verticals.[10] The studies in the library cover over 200 US DMAs and 45 countries, and contain existing and new products, and all marketing touchpoints (both offline and online).

Compass℠ can determine how much to spend on advertising, what type of advertising to use, and how much to spend on each medium. The system can also determine how to allocate expenditures incorporating constraints on spend in certain categories. For example, if a CMO wants to maximize profit, but only spend $1 million in online display and $20 million in total on media vehicles, Compass℠ can estimate how much they should spend on online display and all the other media to maximize their profit without exceeding their spending constraints. Compass℠ can also estimate what profit would be if spending were unconstrained, and the CMO's goal is to maximize profit.

The analyses, insights, and recommendations made by the Compass℠ optimizing software based on this library have been validated across a number of industries for clients, including a global consumer electronics company with 16 lines of business in 60 markets globally, the launch of a high-end luxury car, new products line-up for B2B office supplies manufacturer, and specialty retailers.

MSP continually updates the Compass℠ library with new data from current studies we perform. MSP also considers the constraints faced by businesses in implementing their marketing plans and the underlying strategic goals of organizations while conducting our analyses.

How Compass℠ Works

Compass℠ typically works in four steps:

1. Client Input – Describe key aspects of your business and the market environment (company, category, customers, product, advertising, financials)
2. Attribution – Compass℠ identifies business drivers and their relative impact, given business context
3. Equation & Values – Compass℠ develops a unique econometric equation for your business by utilizing knowledge from thousands of case studies
4. Outputs – Get optimized resource allocation to achieve your goals with a specific implementation plan

MSP Modeling Behind Compass℠ Estimates

In order to quantify marketing effectiveness, MSP applies advance time series cross sectional econometric methods. Models estimated to produce elasticity estimates for Compass℠ generally have an R-squared of .90 or greater. The following bullet points describe the modeling technique and rigorous testing involved.

- Multiplicative
- Nonlinear response
- Time lags including lagged dependent variables
- Differences between short run and long run response
- Formal testing for endogeneity
- Interactions among the marketing mix
- Interactions with market specific conditions
- Alignment of channel resources
- Identify and make appropriate adjustments for collinearity
- Correct for serial correlation
- Thoroughly validated and tested to best match the realities of the marketplace

10. Industry verticals include Automotive, Business Technology, CPG, Consumer Electronics, eCommerce, Entertainment, Financial Services (Retail), Government/Military, Healthcare, Insurance, Retail, Services, Telecommunications, Travel and Leisure, and Utilities.