



The a la Carte Paradox: Higher Consumer Costs and Reduced Programming Diversity

An Economic Analysis of the Implications of a la Carte Pricing on Cable Customers

July 2004

Table Of Contents

	Page Number
Executive Summary	1
Summary Analysis and Conclusions	3
Detailed Report	
• Current Industry Structure, Business Models, and Benefits to Consumers	11
• Scenarios and Economic Model	16
• Impact of A La Carte on Cable Network Economics	22
• Impact of A La Carte on Cable Operator Economics	29
• Implications for Consumer Prices	32
• Implications for Programming Diversity	35
Appendix	
• Project Scope, Interviews Conducted and Sources	40
• Detailed Economic Model	41
• About Booz Allen Hamilton	55
• CV's of Study Team	57

Executive Summary

This report represents the findings of an independent study conducted by Booz Allen Hamilton (Booz Allen) for the National Cable & Telecommunications Association (NCTA). Booz Allen has assessed the implications for consumer prices and programming diversity associated with two different scenarios for providing consumers with “a la carte” access to channels currently sold in tiers. In addition, we have assessed the implications of offering consumers “themed tiers” with fewer included channels.

Our overall conclusion is that the a la carte and themed tiers scenarios evaluated would reverse recent benefits of programming diversity, while increasing prices for the vast majority of consumers.

The specific conclusions of this report are as follows:

- Under each of the scenarios evaluated, *consumers* would be worse off than today. Consumers would either pay more than today for far fewer channels, or would need to select as few as six cable networks to reduce their monthly bill below current levels. Today, most consumers regularly watch nearly three times as many channels.
- If the entire “expanded basic” tier were still offered as an option, even those customers continuing with existing service would, under the scenarios, experience an increase in prices of 7% to 15%. The lower end of this range reflects an increase in costs of establishing the a la carte or themed tier options, as well as greater marketing expenditures for networks, *even if* very few consumers selected the new options.
- Making services available on an a la carte or themed tier basis would raise the costs incurred by *cable operators*. Services offered on such a basis would need to be offered as *digital* services. Operators would need to incur fixed costs of using bandwidth to duplicate analog service on digital, and would incur higher costs for customer care due to increased call center volumes and more complex billing. Consumers would incur variable costs of adding digital set-top boxes.
- A la carte and themed tier options would also adversely impact *program networks*. Their household distribution would decline dramatically, diminishing their advertising revenues. Moreover, networks’ marketing costs would sharply increase: even if only a small percentage of consumers selected a la carte or themed tier options, networks would need to spend more on marketing given the *risk* of lost subscriber levels. Networks would respond by either raising license fees to operators, or by cutting programming expenses.

- Program networks' ability to raise license fees to offset higher marketing expenses and lost advertising is limited by the amount that customers are willing to pay for such networks and negotiations between networks and cable operators. Networks would therefore likely need to also reduce their expenditures on programming, lowering the quality of current offerings and further eroding advertising due to additional declines in viewing.
- Higher costs for cable operators and program networks would result in increased per-channel costs of programming, which would lead to far fewer program services being purchased.
- As many as half to three-quarters of emerging networks could fail under each of the scenarios, including a growing number of targeted niche and ethnic program networks, and new network launches would become extremely unlikely.
- Moreover, even the most established networks would likely have to reduce expenditures on programming, leading to lower viewing and lost advertising. This would likely lead to further industry consolidation into fewer network groups.

The next section of this report provides further elaboration for these summary conclusions. Then, the remainder of the document discusses our findings in greater detail. Lastly, the appendix includes more information about our sources and methodology for constructing our economic model, as well as more information about Booz Allen's Media & Entertainment practice and the project leadership for the study.

I. Summary Analysis and Conclusions

This section of our report includes further elaboration for our summary conclusions than provided in the Executive Summary. For more detail on each of the key points presented in this section, please see the Detailed Report starting on page 12.

Booz Allen evaluated three scenarios

In order to assess the impact on consumers and the industry of introducing either a la carte or themed tiers, Booz Allen developed three distinct scenarios and modeled the likely outcomes for each scenario.

The first scenario evaluated is a “pure a la carte” structure, with consumers receiving the option to purchase any combination of the channels offered by operators on current tiers, including digital networks. Under this scenario, operators would not be free to continue offering channels in tiers beyond broadcast basic. Under each scenario, consumers would need to buy this entry level tier in order to continue receiving free-to-air broadcast networks, with cable networks selected a la carte.

The second scenario evaluated is different from the first in that operators would be free to continue to offer current tiers, in addition to providing the option for consumers to buy channels a la carte. Under this scenario, we have assumed that 50% of consumers would consider moving from current tiers to a la carte.

While a smaller percentage of consumers might move to a la carte based on pricing per channel, we have focused our analysis on quantifying the cost of providing a la carte based on a reasonable estimate of how many consumers might choose such an option. By estimating what the cost of providing an a la carte option would be, we can then evaluate whether or not a significant percentage of consumers could actually be expected to take advantage of such an option.

Under the third scenario we analyzed, operators would be required to introduce new, smaller “themed tiers” of program networks. Operators would be free to pick and choose which themed tiers were offered and which networks were included. We have constructed several illustrative themed tiers ranging from 10 to 20 included channels, and assumed that those consumers electing this option instead of current tiers would buy a maximum of one of the available themed tiers offered by an operator. Most consumers would not purchase more than one themed tier, as this would likely result in a monthly bill close to or above the cost of current expanded basic tiers. This pricing level is likely given that programming costs represent less than half of current costs for operators, and operators would need to price new themed tiers to cover their other costs as well. Similar to Scenario 2, we have assumed that 50% of consumers would consider moving from current expanded basic tiers to smaller themed tiers.

In all scenarios, we have assumed that in order to receive a la carte service or new themed tiers, consumers would need to have a digital set-top box for every TV set receiving cable in their home. We determined that other technology solutions (e.g., “traps”) are not practically feasible (please see Section III for further discussion of scenario definitions).

As a result, operators would require a significant investment in new digital set-top boxes. Based on estimated digital box costs of \$185 per box and the scenario definitions above, the transition to a la carte or themed tiers would require a capital investment of between \$17 billion (Scenarios 2 and 3) to \$34 billion (Scenario 1). While operators would recover these costs through rental fees charged to consumers, an investment of this magnitude might strain operators' financing capabilities, especially to the extent that a long transition period were required to distribute and install the new boxes. Our economic model includes costs of the boxes themselves, but excludes any inventory financing costs associated with the transition period to roll out the new boxes. In addition, we have not included any additional costs for field operations related to the transition to a la carte.

Booz Allen modeled how the responses of networks and operators would impact consumer prices and programming diversity

To better reflect the uncertainty involved in how potential scenarios might evolve, we have modeled two different responses that networks and operators might take under each scenario. Each response is an "extreme" end of the spectrum of possible responses for an individual network or operator. We recognize that most networks or operators would respond somewhere in between these two extremes, but we have analyzed the extremes as a way to range the likely impact on consumers and industry economics.

Under the first case ("Response A: Networks Increase Total Affiliate Fees"), we have assumed that networks are able to increase their license fees charged operators ("affiliate fees") to fully offset lost cash flow due to lower advertising and higher marketing expenses. In this case, we have also assumed that operators would pass through all of this increase in their programming expenses to consumers. Beyond increased affiliate fees, we have also modeled the incremental costs of provisioning a la carte, such as the cost of additional digital set-top boxes, the opportunity cost of duplicated spectrum, and increased customer care costs.

Under the second case ("Response B: Networks Reduce Programming Expense"), we have assumed that operators do not accept increased affiliate fees, resulting in significant pressures on networks' cash flow. As a result, networks would be forced to cut their programming expenses to remain economically viable. This would likely result in a negative feedback loop, with lower ratings further eroding advertising, in turn eroding cash flow even more. Many networks would cease to exist or be sold to larger network groups.

Under both Response A and Response B, we have assumed that operators would maintain their current cash flow, and would price new offerings accordingly (absent any rate regulation, which is not currently being considered).

We reflected the variety of current program networks and differentiated the impact on network economics through a segmented approach

In order to better model the impact of a la carte on the economics of a heterogeneous universe of networks, we divided cable networks into six segments.

Networks can be segmented along two primary dimensions: the relative size and strength of a network, and the level of targeting of a network's programming and audience base. (For a more detailed discussion of our segmentation methodology and the characteristics of the six network segments, please see section III).

For each segment, we evaluated the maximum percentage of households that would potentially take the networks in that segment under a la carte (the "take rate"). Based on this maximum, we then evaluated implications for the costs of providing an a la carte offering and assessed implications for consumers.

Under a la carte, consumers would be likely to subscribe to far fewer networks than they do today. Cable channel viewing is relatively concentrated, as only 20% to 30% of current subscribers per network account for up to 60% to 80% of total viewing per network today. Heavy viewers would be the most likely to subscribe under a la carte. In addition, some occasional viewers would take a network to continue to receive their favorite programs.

Moreover, take rates would be constrained by networks' low current unaided brand awareness, which is consistently below 20% for most networks. Based on these and other inputs, we estimate that the maximum network take rate would be no more than 30%, and the lowest 10%.

(For a more detailed discussion of the take rate methodology and assumptions, please see Section III).

Consumers electing to migrate to a la carte or themed tiers would face significantly higher cable bills unless they took very few channels

We estimate that under Response A: Networks Increase Total Affiliate Fees, cable operators would need to set pricing for the new a la carte or themed tier offerings such that the average consumer choosing a la carte or themed tiers would incur a 23% to 30% increase in their monthly cable bill (see Figure 2 below). This increase in the cable bill would reflect higher programming costs and ongoing operating expenses for the operator, as well as the need for most consumers to rent digital set-top boxes. Under Response B: Networks Reduce Programming Expense, in which operators do not accept affiliate fee increases from networks, monthly cable bills for a la carte or themed tier customers would still need to be 14% to 21% higher than today due to rental fees for additional set-top boxes, increased customer care costs, and the opportunity costs of duplicated spectrum.

Based on our knowledge and experience working in the industry, we believe the likely outcome would be at least the midpoint of these two extremes. Operators would recognize the importance of quality

programming to maintain the attractiveness of their offerings to consumers, and would need to accept higher total affiliate fees from program networks. As a result, we would expect the average bill for those taking a la carte to increase by approximately 22%, the mid-point of Response A and Response B (see Figure 1 below).

Most consumers would need to spend substantially more than today to receive far fewer channels.

Figure 1: Consumer Price Changes

Response A: Networks Increase Total Affiliate Fees							Response B: Networks Reduce Programming Expense						
	Keeps Tier			A La Carte				Keeps Tier			A La Carte		
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3		Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
Program- ming Cost	N/A	10.3%	9.7%	16.6%	2.4%	3.0%	Program- ming Cost	N/A	0%	0%	0%	0%	0%
Set-Top Boxes	N/A	0%	0%	15.7%	15.7%	15.7%	Set-Top Boxes	N/A	0%	0%	15.7%	15.7%	15.7%
Customer Care	N/A	3.2%	3.2%	4.0%	3.2%	3.2%	Customer Care	N/A	3.2%	3.2%	4.0%	3.2%	3.2%
Total	N/A	13.4%	12.8%	36.3%	21.3%	21.9%	Total	N/A	3.2%	3.2%	19.7%	18.9%	18.9%
Opportunity Cost of Spectrum	N/A	1.9%	1.4%	-5.9%	1.9%	1.4%	Opportunity Cost of spectrum	N/A	1.9%	1.4%	-5.9%	1.9%	1.4%
Total	N/A	15.3%	14.2%	30.3%	23.2%	23.3%	Total	N/A	5.1%	4.5%	13.8%	20.8%	20.3%

Most Likely Case for Scenarios 2 and 3 for those Keeping Current Tiers		
50% of Consumers Take a la Carte	10% to 15%	► Expect that price increase is at least as large as the midpoint between Response A and Response B
Very Few Consumers Take a la Carte	7%+	► Reflects opportunity cost of spectrum and reduced impact for operator programming costs and customer care costs

Note: Totals may differ slightly due to rounding
Source: Booz Allen analysis

Most consumers would need to reduce the number of channels to just six to avoid an increase in their monthly cable bill

Consumers currently lacking digital set-top boxes, more than two-thirds of cable households today, would be particularly constrained in the number of cable networks they could select before facing an increase in their monthly cable bill. After paying for the broadcast basic tier and rental fees for digital set-top boxes, most consumers would have just \$28 left to spend on cable networks before their monthly bills went up (see Figure 3 below). Given the consumer price increases shown in Figure 1 above, the average price per channel for a la carte would be approximately \$4 to \$5. This represents the likely range for the average cable network. The actual price per channel would likely vary considerably across channels under a la carte, with some networks priced above this range and others below it. As a result, the average analog household would be able to buy just six channels before its cable bill went up (the actual number would vary based on the mix of channels bought). For digital households, the “breakeven point” would increase to nine channels.

Most households are frequent viewers of more program networks than six cable networks. Nielsen Media Research estimates that the average household watches 17 channels among those it receives, including cable networks and local stations. Cable networks with which we spoke also indicated that roughly 60% to 80% of their viewing is from more regular, heavier viewers. Extrapolating from this

Operators would likely price channels at \$4 to \$5 each. As a result, most consumers would be able to subscribe to only six cable networks before facing a higher monthly cable bill.

information, the average consumer regularly watches about a dozen cable networks. Most cable subscribers would therefore likely choose to remain with current tiers rather than pay more for fewer channels than they regularly watch today.

Figure 2: Average Number of Channels Taken Assuming No Change in Consumer Cable Bill

Response A: Networks Increase Total Affiliate Fees					Response B: Networks Reduce Programming Expense				
	Digital Home		Analog Home			Digital Home		Analog Home	
	Scenario 1	Scenario 2	Scenario 1	Scenario 2		Scenario 1	Scenario 2	Scenario 1	Scenario 2
Broadcast Basic Cost	\$15.00	\$15.00	\$15.00	\$15.00	Broadcast Basic Cost	\$15.00	\$15.00	\$15.00	\$15.00
Set Top Box Fees	\$5.20	\$5.20	\$12.00	\$12.00	Set Top Box Fees	\$5.20	\$5.20	\$12.00	\$12.00
Subtotal	\$20.20	\$20.20	\$27.00	\$27.00	Subtotal	\$20.20	\$20.20	\$27.00	\$27.00
Remaining Spend in Consumer Bill¹	\$34.80	\$34.80	\$28.00	\$28.00	Remaining Spend in Consumer Bill¹	\$34.80	\$34.80	\$28.00	\$28.00
Price per Channel²	\$4.73	\$4.37	\$4.73	\$4.37	Price per Channel²	\$3.90	\$4.25	\$3.90	\$4.25
Average # Channels Afforded Before Bill Increase	7.4	8.0	5.9	6.4	Average # Channels Afforded Before Bill Increase	8.9	8.2	7.2	6.6

Note: 1) The total consumer bill equals the current video ARPU (pre a la carte) of \$55

2) The price per channel is calculated using the average increased consumer bill amounts and # of channels chosen under the different a la carte scenarios

Source: Booz Allen analysis

Prices would increase substantially even for those remaining with current tiers

Even consumers staying with current tiers would face a substantial increase in their monthly bill due to the higher costs operators would incur to establish a la carte or themed tier options. This is due, at a minimum, to the opportunity cost of using spectrum to duplicate programming on analog tiers, and due to a more labor intensive and complex customer care environment (Response B). Moreover, if program networks were able to raise total affiliate fees to operators (Response A), then consumer prices would go up further still.

We estimate that the average consumer keeping current tiers would need to pay 14% to 15% more than today under Response A: Networks Increase Total Affiliate Fees (see Figure 2). The average monthly bill for those keeping current tiers would still go up by at least 4% to 5% under Response B: Networks Reduce Programming Expense. As discussed above, however, our professional judgment is that the likely outcome would be at least the midpoint of the price increases modeled for Responses A and B, otherwise operators would face a worsening in the quality of their product due to failed networks, less diverse programming offerings, and lower programming expenditures by networks.

Moreover, consumer prices for those keeping current tiers would need to increase substantially even if a much lower percentage of consumers selected a la carte or themed tiers than the 50% modeled for Scenarios 2 and 3. The costs associated with establishing an a la carte or themed tier option would not vary significantly with the number of consumers choosing such an option. In addition, even if few consumers ultimately opted to take a la carte or themed tier options, program networks would need to increase marketing expenditures given the risk that consumers would choose a la carte or themed tiers. A network would need to spend on marketing to increase brand awareness and preference for its programming so that consumers continue to maintain their current service or consider that network as an a la carte option.

Consumer prices would go up substantially for everyone even if very few consumers selected new a la carte or themed tier options.

We estimate that consumers would likely bear at least a 7% increase in their monthly bill for current tiers even if no consumers ultimately moved to a la carte. This “floor” on the likely price increase for those keeping

current tiers reflects a reduced impact on program networks’ marketing expenses and a smaller increase in customer care costs. Costs of duplicated spectrum would not change (see Figure 1 above).

Programming diversity would be significantly impacted under a la carte or themed tiers

Under both response A and B, networks would face much more challenging economics due to lost advertising and higher marketing expenses. Advertising would fall by between 20% to 60%, depending on the specific network segment due to lost viewing and falling rates for advertising inventory as cable became a less efficient medium for advertisers. In addition, network marketing expenses would need to increase from today’s 2% to 6% of revenues, to as much as 20% to 30% of revenues. These marketing cost estimates are benchmarked on current spending levels for premium cable networks and consumer goods companies. We believe these marketing costs are conservative, as a la carte would create a much more cluttered environment in which to compete than premium networks face today.

Moreover, many cable networks are much smaller in scale than premium networks and consumer goods companies (i.e., in terms of annual sales and number of employees), and many of the costs of marketing are sensitive to scale (e.g., advertising spots, marketing staff). The price of a 30 second commercial spot is higher as a proportion of revenues for a smaller buyer, both because they have lower revenues and have less ability to negotiate volume discounts with sellers. Similarly, cable networks would bear fixed expenses associated with establishing larger marketing departments. These marketing staff expenses would likely be higher as a percentage of revenues for those with smaller revenues, given the fixed cost nature of these expenses. As a result, many cable networks would likely face higher marketing

Program networks would need to spend roughly one-fifth more of current revenues on marketing, reducing investment in programming and making small networks less viable.

costs than the ratio of 20% to 30% of revenues we modeled (i.e., the smallest, emerging networks).

Under Response A: Networks Increase Total Affiliate Fees, existing networks would be able to offset these adverse impacts on their economics through higher affiliate fees. However, new network launches would be constrained, and networks with low distribution and brand awareness today would face difficulty increasing their reach. Few subscribers would pay \$4 to \$5 per month for networks that they have not yet sampled. Emerging networks would need to spend considerable sums on marketing and would face an uphill battle to stand out from the clutter. They would be at a significant disadvantage relative to the current system of fixed tiers, in which a stable distribution environment lowers the risk profile of multi-year investments in programming to build an audience. In this new environment, new network launches would be extremely rare.

Half to three-quarters of emerging networks would likely fail under a la carte. New network launches would be extremely rare.

Under Response B: Networks Reduce Programming Expense, the impact on programming diversity would be much more significant. Because networks would be unable to increase their total affiliate revenues under this case, they would face lower cash flow and the need to cut programming expenses to remain viable. This would result in a negative feedback loop in which ratings fell further, resulting in additional pressure on advertising and cash flow.

The negative feedback loop would be most pronounced under Scenario 1, pure a la carte.

Figure 3: Change in Network Cash Flow Margin and Programming Expenses
Response B: Networks Reduce Programming Expense

Scenario 1, Pure a la Carte					Likely Result
Segment	Baseline Cash Flow Margin	Scenario Cash Flow Margin	Baseline Programming Spend (\$MM)	Scenario Programming Spend (\$MM)	
Emerging Niche	18%	10%	\$41	\$9	▶ Most networks fail
Emerging Mass	27%	10%	\$64	\$4	▶ Most networks fail
General Entertainment & Sports	34%	10%	\$667	\$562	▶ Many fail and programming quality will fall significantly
News	40%	17%	\$153	\$130	▶ Some fail and programming quality falls significantly
Older-Skewing	42%	14%	\$112	\$95	▶ Some fail and programming quality falls significantly
Younger-Skewing	49%	19%	\$159	\$135	▶ Some fail and programming quality falls significantly

Note: In Response B, if cash flow margin decreases by more than one-third, then programming drops by 15% or amount necessary to maintain a minimum 10% margin

Source: Booz Allen analysis

The average cash flow margins of both Emerging Mass and Emerging Niche networks would fall sharply and programming expenditures would need to be cut dramatically under Scenario 1. The cash flow impacts shown in Figure 3 above represent only the first iteration of how this would unfold. Lower programming spending would likely lead to lower viewing levels, which would in turn lead to further reductions in advertising and cash flow. It is not clear where the new equilibrium would be, and how much consolidation would be required for industry economics to stabilize.

As a result, most networks in Emerging Niche and Emerging Mass segments would fail, or would be sold to larger groups that might attempt to salvage the networks through reducing costs and/or repositioning them. Today, these networks represent the vast majority of networks among the 339 national and 84 regional networks currently available. We estimate that under Scenario 1 at least three-quarters of emerging networks would either fail or be sold to network groups that could capture greater scale economies. Moreover, few if any new networks would launch given the potential returns available (see Figure 3 above).

While other, established network segments would be more likely to remain economically viable under Response B: Networks Reduce Programming Expense, they would also experience significant cash flow pressures. A similar negative feedback loop would be likely, necessitating a reduction in programming investment. Similar to emerging segments, many independently-owned networks would likely fail or be sold to network groups that could capture greater scale economies. We estimate that between one-quarter to one-third of established networks would likely fail under Scenario 1.

Widespread network failure and consolidation would also likely occur for Scenarios 2 and 3, in which a la carte or themed tiers are offered as an option to consumers but operators continue to offer current tiers. Again, the cash flow impact shown below in Figure 4 represents only the first cycle of the negative feedback loop.

Figure 4: Change in Network Cash Flow Margin and Programming Expenses
Response B: Networks Reduce Programming Expense

Scenario 2 & 3, A la Carte and Thematic Tiers					Likely Result
Segment	Baseline Cash Flow Margin	Scenario Cash Flow Margin	Baseline Programming Spend (\$MM)	Scenario Programming Spend (\$MM)	
Emerging Niche	18%	10%	\$41	\$19	▶ Many networks fail
Emerging Mass	27%	10%	\$64	\$27	▶ Many networks fail
General Entertainment & Sports	34%	17%	\$667	\$567	▶ Several fail and programming quality falls
News	40%	24%	\$153	\$130	▶ Some fail and programming quality falls
Older-Skewing	42%	25%	\$112	\$95	▶ Some fail and programming quality falls
Younger-Skewing	49%	30%	\$159	\$135	▶ Some fail and programming quality falls

Note: In Response B, if cash flow margin decreases by more than one-third, then programming drops by 15% or amount necessary to maintain a minimum 10% margin

Source: Booz Allen analysis

We estimate that at least half of emerging networks would fail under Scenarios 2 and 3. Nearly half of these networks have cash flow margins that are currently negative. Under a la carte, these networks would never have an opportunity to become viable. Many more would lose the ability to generate any cash flow due to lost advertising and higher marketing expenses. Networks seeking to launch in this environment would be especially at a disadvantage.

While most established networks would likely remain viable under Scenarios 2 and 3, significant reductions in programming expenditures would be likely, and further industry consolidation would likely occur. As Figure 4 above shows, we would expect established networks to have to cut programming expenditures substantially in order to prevent cash flow from deteriorating beyond the point where they can earn an attractive return on investment.

Further industry consolidation would be likely under a la carte.

In such an environment, many networks' owners would choose to sell to groups that would be better positioned to take costs out of the business through economies of scale. Beyond independently owned networks selling to larger network groups, the major network groups might also seek to merge to improve operating performance and returns for shareholders.

As a result, the introduction of a la carte or themed tiers would lead to a reduction in the diversity of programming available to consumers, as well as greater concentration of media ownership.

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Detailed Report

II. Current Industry Structure, Business Models, and Benefits to Consumers

Cable networks depend on both advertising and affiliate fees to underwrite programming investments

The multi-channel television industry in the U.S. consists of two key segments: cable networks and operators. Today, there are approximately 339 national and 84 regional cable networks, nine multiple system operators (MSOs) with more than 1 million subscribers, two major direct broadcast satellite (DBS) operators, and hundreds of smaller cable operators. Under the current business model, cable networks depend on two primary revenue sources, wholesale fees charged to operators on a per subscriber basis (the "affiliate fee"), and advertising. In 2003, approximately 56% of average basic cable network revenues was generated from affiliate fees, while advertising revenues represented 44% of revenues.

Advertising sales play a key role in enabling consumers to enjoy cable network programming at lower rates from operators than if networks had to rely solely on affiliate fees to underwrite their investments in programming. Given the critical importance of advertising, most cable networks negotiate broad access to distribution as part of their carriage agreements with operators. Cable networks' ability to generate advertising revenue is driven by a number of factors, chief among them audience reach, the strength of the network's brand with consumers and advertisers, and the type of demographic targeting offered to advertisers.

Over time, the number of advertising-supported networks has increased, as more networks have gained distribution and reached sufficient "critical mass" to attract advertising. Historically, advertisers have been less willing to support networks with less than 50% to 70% coverage of TV households (this threshold is often applied not only to cable but to syndicated broadcast programming). Those advertisers that do support networks before they reach 50-70% distribution do so because they want to "get in early" and develop relationships with networks they expect to grow significantly, and typically pay lower advertising rates than for established networks.

Stable distribution under tiering benefits networks, operators, and consumers

Cable networks enter into multi-year agreements with operators for distribution. As part of these agreements, operators generally agree to distribute cable networks as part of specific fixed bundles of networks called tiers. This negotiated distribution structure provides a stable distribution environment, which benefits networks, operators and consumers. Tiers greatly simplify the marketing and operations of both operators and networks. Networks also place a high value on being as widely distributed as possible within tiers because it reduces the risk profile associated with multi-year investments in programming and launching new networks. That is to say, because networks have multi-year distribution agreements and are often packaged on major tiers, they do not need to regularly spend significant amounts on consumer marketing and do not have large fluctuations in distribution. Consumers in turn benefit from a greater breadth of content choices, including many networks they can sample that they may not have been aware of or only watch occasionally.

First, distributing networks in tiers enables cost efficiencies for networks and operators. Networks' costs of acquiring subscribers are lower under tiers because they can focus on securing multi-year contracts with operators rather than acquiring subscribers individually. This is a significant benefit. For example, premium networks spend an average of \$11 per subscriber added in marketing cost, and turn over more than half of their subscriber base each year due to high monthly attrition in subscriber levels. Tiers also enable cable networks and operators to enter into long-term contracts that reduce their respective administrative costs. In addition, tiers greatly simplify the complexity of customer service for operators. If all basic cable networks faced the higher churn of subscribers that premium networks face today, operators' costs for running their call centers would increase substantially.

Programming investments would be much riskier without stable distribution.

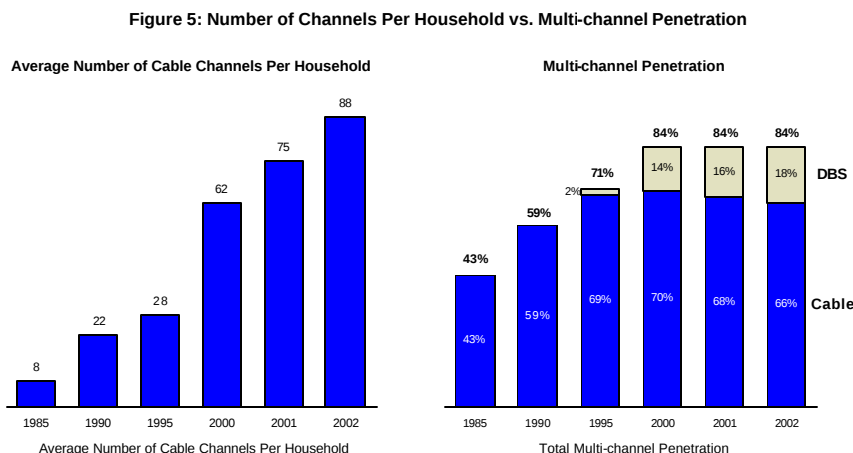
Second, the stable distribution environment provided by tiering also makes it more attractive for networks to make investments in programming to build a larger audience and to launch new networks. Networks produce original

programming for their own programming library or acquire rights to air programming from other suppliers (e.g., off-network sitcoms and dramas, movies), typically for a contractual number of runs over a specified number of years. In the case of acquired programming, these deals are sometimes valued at hundreds of millions of dollars per show, and consume a substantial percentage of the network's programming budget. Having as broad as possible a base of subscribers that could potentially tune-in to programming without having to make a direct decision to subscribe to an individual network reduces the risk profile for networks making these large investments in programming.

Indeed, occasional viewing has been critical for helping cable networks' generate advertising revenues, as roughly one-fifth to one-third of total viewing for the average cable network is from occasional viewers that watch less frequently or for less time per viewing session. The average cable network generates approximately 6¢ to 10¢ per subscriber per month in advertising revenue as a result of occasional viewing. This represents roughly 20% to 30% of current programming expenses, on average.

The risk of launching a new network would also increase substantially under a la carte or themed tiers. Stable distribution enables making risky investments in programming needed to build a network, many of which involve multi-year commitments. Today it takes a network about five years from launch to reach positive cash flow.

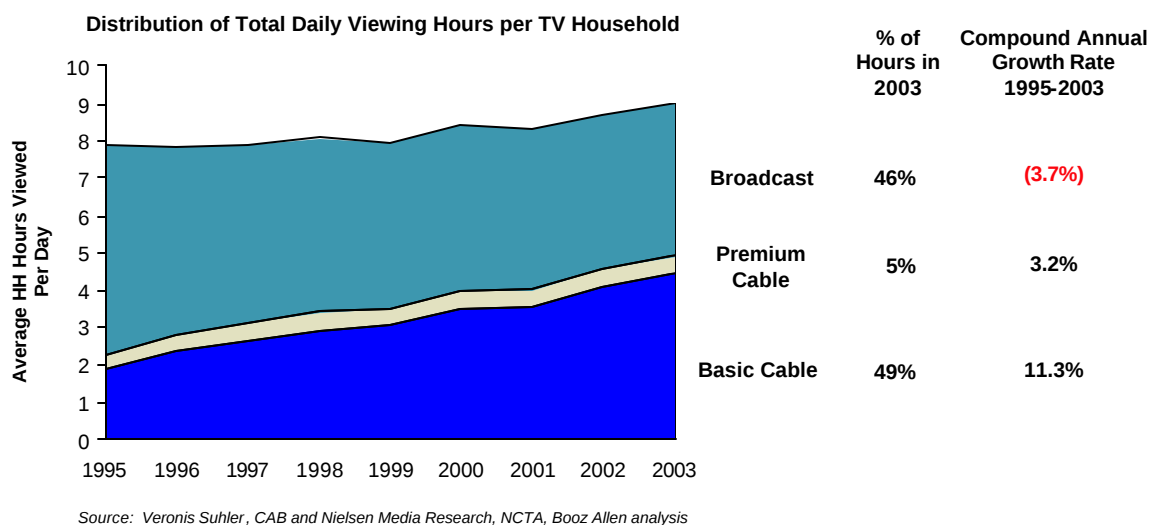
Third, consumers enjoy greater programming diversity as a result of the current tiering system. The cable industry grew out of only a few premium channels that consumers subscribed to on an a la carte basis, and few other choices beyond over-the-air broadcast channels. Over time, more networks were added to operators' tiers, which helped fuel the growth of cable subscribers (see Figure 5 below). With the introduction of digital broadcast satellite (DBS) in the 1990s, the breadth of channels offered to consumers increased further still.



Cable operators responded to competition from satellite by further increasing the number of channels in their analog tiers and accelerating the roll-out of digital services to match larger packages provided by satellite operators. This expansion in programming diversity was made possible by massive investments in cable infrastructure and the installation of millions of miles of fiber optic cable by operators, as well as by investments in content by cable networks. The average number of networks available to the average cable home grew from 8 in 1985 to 88 in 2002 (including digital channels available in a minority of cable homes). Breadth of content has been a key basis of competition among cable operators and DBS, along with service quality and prices.

Today, cable operators offer consumers a variety of tiers to choose from (e.g., basic, expanded basic, digital). The value that consumers place on this breadth of content is demonstrated by the high penetration of multi-channel television and by the ongoing

Figure 6: Consumer Viewing by Type of Network

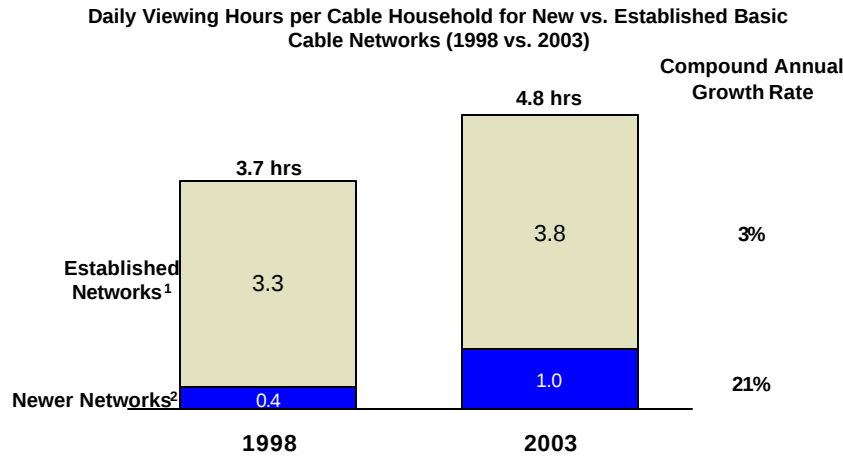


shift in viewing from broadcast programming to cable programming (see Figure 6).

More than half of the increase in cable viewing is for newer networks.

As a result of this increase in programming choice, cable viewing has grown dramatically over time, as audiences have migrated from the traditional broadcast networks to cable networks. Moreover, increased cable viewing has been driven equally by established networks and newer networks. As viewing has grown, it has also fragmented, with hours watched for established and newer networks both increasing by an estimated half hour per day — further evidence that consumers have valued the increased programming diversity offered by operators (see Figure 7 below).

Figure 7: Share of Viewing by Cable Network Age

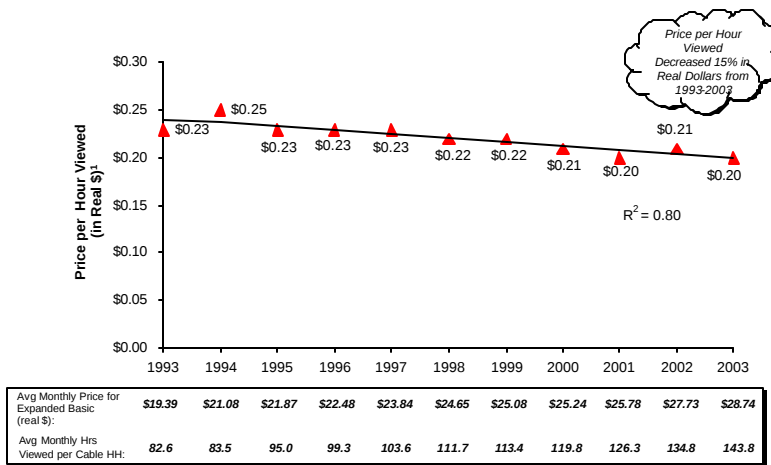


Note: (1) Established networks are defined as networks that had 50M subscribers or more by the end of 1998
 (2) Newer networks had fewer than 50M subscribers by the end of 1998, or were launched in the subsequent years
 Source: Kagan, Veronis Suhler, CAB and Nielsen Media Research as cited by NCTA, Booz Allen analysis

While cable rates have increased, the cost per viewing hour for cable network programming has decreased in real terms

Given a history of raising rates and competing for customers based on the price of a bundle and not individual channels, operators and networks have been criticized for restricting consumer choice and passing on costs to consumers that some might argue could be more easily controlled in an a la carte environment. While it is true that consumer prices for video services have been rising faster than general consumer price inflation, consumers have received greater value for their money over time due to increased viewing of cable programming (see Figure 8 below).

Figure 8: Price Per Hour Viewed in Cable TV Households 1993-2003



Note: Bills have been adjusted to account for inflation, using the CPI index
 Source: CAB Cable TV Facts (2004), Kagan Research Broadband Cable Financial Databook (2003), US Consumer Price Index, Steven S. Wildman: "Assessing Quality-Adjusted Changes in the Real Price of Basic Cable Service" September 2003, Booz Allen analysis

Higher consumer prices charged by operators have been driven by a combination of increased programming investments by networks, the increased number of channels

available to consumers, as well as higher non-programming expenses for operators associated with plant upgrades and improved customer service.

Customers have benefited from these investments. While consumer prices have increased, real cost per viewing hour has actually fallen significantly.

III. Scenarios and Economic Model

The FCC is currently evaluating the potential implications for consumers of unbundling tiers. The precise elements of an a la carte system in the U.S., if one were to be mandated, have not yet been defined. Discussions include requiring that cable operators offer access to some cable networks on an a la carte basis, allowing consumers to decide on individual networks to subscribe to, instead of choosing between tiers. Alternatively, operators could be required to offer smaller, themed tiers of channels (e.g., family, sports, entertainment), in addition to current, larger tiers of channels.

In order to assess the impact of a la carte on consumers and the industry, we have developed distinct scenarios for potential a la carte implementation and modeled the likely outcomes for each scenario. These scenarios are by no means exhaustive; however, they are useful in illustrating the range of potential effects from a la carte.

There is a common set of assumptions across all scenarios for the technology requirements for how a la carte would be implemented

In all scenarios modeled (see Figure 9 below), we have assumed that in order to receive a la carte service, consumers would need to have a digital set-top box for every television set receiving cable in the home. Digital set-tops would be the preferred solution. Though other technology options are available to limit access to channels to which a household does not choose to subscribe (e.g., traps), digital set-top boxes are the most practical and likely way that this would be achieved. Other technology solutions would require reconfiguring the existing channel line-up and re-opening all existing deals between networks and operators, and would constrain operators' ability to add additional channels to the menu of choices available to consumers under a la carte. Using traps, the number of channels would need to be fixed.

Scenario 1 illustrates a “pure tone” example of a la carte

In Scenario 1, all networks would be available to customers on an a la carte basis only, with the exception of those services currently part of broadcast basic (e.g., ABC, CBS, FOX, NBC, UPN, WB, PBS, educational and religious stations), which would continue to be offered as an entry-level tier. Consumers would construct their own selection of channels by picking and choosing from a menu of cable networks offered by the operator. The menu would include all channels currently on expanded basic tiers or digital tiers.

For the technical reasons explained above, all households would require a digital set-top box for every television in the home receiving cable service. As all cable networks

would be offered only on a digital basis under this scenario and distributed as scrambled signals, operators would require less total spectrum for current channels due to digital compression. We have included a revenue benefit to operators due to this freed up spectrum that partially offsets the need to raise rates to cover incremental costs.

Figure 9: A La Carte Scenario Definitions

Scenario 1: Pure A La Carte	Scenario 2: Combined Tier/ A La Carte	Scenario 3: Thematic Tier
▶ All networks currently offered on any tiers become available a la carte ▶ None of current tiers available anymore other than broadcast basic, which all customers would receive before a la carte ▶ All households are digital (i.e., require digital set top box for every household and for every TV in the home)	▶ MSOs continue to offer current tiers, but must also provide option for consumers to take any of the channels in these tiers a la carte ▶ A la carte only available on digital systems and requires set top box for every TV receiving cable service ▶ Duplication of spectrum required for a la carte services ▶ Analog basic still available for subscribers that choose current tiers (no set top box required)	▶ Every MSO required to provide smaller, thematic tiers in addition to current offerings ▶ MSOs determine number of thematic tiers to offer and channel composition (likely 10 to 20 cable channels per thematic tier (e.g., family, sports, entertainment)) ▶ Thematic tier provided on digital only (requires duplication of bandwidth for those channels also on analog basic tiers)
Common Assumptions		
▶ Broadcast stations provided as part of broadcast basic tier for those taking a la carte ▶ MSOs set subscriber prices ▶ Same rules apply for DBS systems as well as MSOs		

Scenario 2 focuses on how enabling consumers to select and choose specific networks, but not precluding operators from also offering tiers, would impact consumers and the industry

In Scenario 2, consumers would be allowed to choose between maintaining analog or digital tiers as currently offered, or opting to create their own selection of channels under a la carte. Operators would be required to make all channels available on any tier also available on an a la carte basis, including all expanded basic analog channels and digital channels.

A la carte would be available only to subscribers electing to take digital set-top boxes for all television sets receiving cable service (consumers that opted to retain their current analog tiers would not be required to rent any additional set-top boxes.) Operators would be free to offer additional channels not currently on tiers, but would be unlikely to do so for many additional networks, given the opportunity cost of the spectrum required.

Scenario 3 explores the impact of requiring operators to offer themed tiers with a finite set of pre-selected channels, in addition to their current tiers

Under Scenario 3, operators would continue to offer analog basic and digital tiers, but would also be required to offer themed tiers (e.g., family, sports, entertainment). The exact composition of these new tiers would be left up to the individual operator. Based upon our discussions with operators, we estimate that approximately 10 to 20 cable channels across a set of genres would be included in themed tiers. We have assumed that those consumers electing this option instead of current tiers would buy a maximum of one of the available themed tiers offered by an operator. Consumers would not purchase more themed tiers, as this would likely result in a bill close to or above their current cable bill.

Once again, this scenario assumes that the a la carte option, in this case the themed tier, would be available on digital only and that consumers choosing this option would require a digital set-top box for every TV in the home. As MSO's would continue to offer their current tiers, duplication of the spectrum for the channels offered on the themed tiers, and the associated opportunity cost, would once again be an issue.

Operators would face substantial costs to manage the transition to a la carte

With digital set-top boxes installed in only 30% of cable homes today, and digital boxes on just over half of the average three television sets per digital home today, the industry would face an enormous implementation challenge to manage a transition to a la carte, especially to the extent that a long transition period were required to distribute and install the new boxes, since operators would have to warehouse sufficient boxes to accommodate uncertain customer demand. The capital requirement for additional digital set-top boxes would range from \$17 billion to \$34 billion, using an assumed cost of \$185 per digital set-top box. This range reflects 50% (Scenarios 2 and 3) to 100% (Scenario 1) of households migrating to a la carte.

While operators would recover these costs through rental fees charged to consumers, an investment of this magnitude might strain operators' financing capabilities, especially to the extent that a long transition period were required to distribute and install the new boxes. Our economic model includes costs of the boxes themselves, but excludes any inventory financing costs associated with the transition period to roll out the new boxes. In addition, we have not included any additional costs for field operations related to the transition to a la carte.

Developing the economic models for each scenario involved significant complexity

We recognize the uncertainty involved in building an economic model for a la carte. There are a large number of variables to consider, and there are a large number of potential interactions among those variables given the responses of consumers, program networks, and operators. Moreover, for some of the variables, there is no empirical data, for example the response of consumers to different a la carte prices per channel.

We have therefore focused on modeling the key variables likely to drive the outcome, as well as the interplay of responses between networks and operators. We believe that we have included the most critical variables in the model, given our discussions with a diverse set of program networks, operators and advertising agency executives during this work, as well as our own experience working in the television industry. (Sections IV and V provide further elaboration of the key model drivers for networks and operators, respectively).

We have focused our analysis first on what it would cost to provide a la carte, assuming that as large a proportion of consumers that might consider a la carte actually availed themselves of the option. We then evaluated what the implications for consumer prices would be given the costs of providing a la carte, taking into account the impact on both those taking a la carte and those remaining with current tiers.

We believe this approach is most useful in assessing the implications for consumer prices and programming diversity, as it does not depend on an estimate of consumer willingness to pay and take rates. We believe that projecting consumer take rates would be highly speculative, given significant change in the environment under a la carte (e.g., need for consumers to choose among many channels, marketing by networks, impact on programming, etc.).

For each scenario, we first needed to establish the proportion of cable homes selecting a la carte instead of current tiers

For the pure a la carte structure in Scenario 1, all households would migrate to a la carte, because operators would not be permitted to offer any tiers.

For Scenario 2, we have assumed that 50% of consumers would be likely to consider moving from current tiers to a la carte. Recent third-party estimates suggest that a higher proportion of consumers might elect such an option if presented with it (e.g., a national study conducted by Concerned Women for America and Citizens for Community Values found that 66% of those surveyed would "prefer" to choose networks included in their packages). We have elected to use a somewhat more conservative estimate, given the significant uncertainty involved. Again, a smaller percentage than 50% might actually move to a la carte based on the resulting pricing per channel. Our analysis has focused on what the costs of providing such an option would be.

Similarly, in Scenario 3, we have also assumed that 50% of consumers move from current tiers to smaller themed tiers.

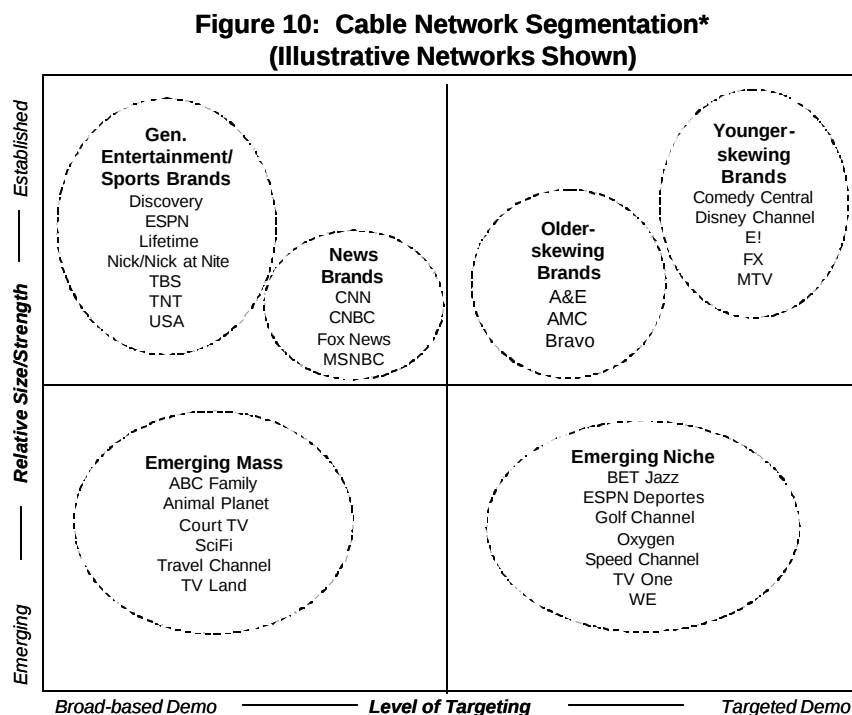
Building our economic model required segmenting networks

The ultimate impact on consumer prices and programming diversity depends on the specific economics and strategies of a very heterogeneous set of industry players. In order to better reflect the dynamics of the industry, we have therefore segmented cable networks in order to better model the impact on their economics and likely response to different a la carte scenarios.

We have used statistical analysis to segment networks. First we used clustering and discriminant analysis to identify those factors most relevant in explaining the similarities and differences across cable networks. We examined more than 20 variables, using non-proprietary data sources. Among these, seven were statistically significant in developing clusters of networks. These seven variables included: the number of years since the network launched, unaided recall by consumers of the network, the percentage of households watching the network in the past year, the demographic composition of the audience, current audience size, current advertising pricing, and current advertising revenue per subscriber.

Next, we used multiple regression analysis to identify those factors most useful in explaining the variance in realized advertising pricing. Based on our analysis, we determined that three variables explain more than two-thirds of the variance in advertising rates across networks. These are the brand strength of the network, the demographic composition of the audience, and the degree of targeting of the programming. In other words, advertisers will pay more to reach a network with a stronger brand, that reaches a younger skewing audience (e.g., 18-34 year old viewers) and that is more targeted to specific consumer interests. This result is very consistent with our experience working in the cable industry and advertising markets.

Based on this analysis, we developed six distinct network segments that can be depicted along two dimensions: the relative size and strength of a network and the level of targeting of a network's programming and audience base. Figure 10 below shows the resulting segmentation, with illustrative networks within each segment.



Note: * Networks shown are illustrative; does not show all networks in each segment

There are statistically significant differences between segments based on clustering and discriminant analysis

Source: Kagan, Mediamark Research Inc, Beta Research Corp, Booz Allen analysis

As Figure 11 below illustrates, the economic profiles of these resulting six segments are clearly different.

Figure 11: Cable Network Segment Baseline Data

	General Entertainment / Sports	News Brands	Older-skewing Brands	Younger-skewing Brands	Emerging Niche	Emerging Mass
Average Year-End Subscribers	▶ 87M	▶ 86M	▶ 80M	▶ 84M	▶ 34M	▶ 64M
Average License Fee/Sub/Month	▶ \$0.67	▶ \$0.20	▶ \$0.18	▶ \$0.25	▶ \$0.09	▶ \$0.08
Net Ad Revenue Per Subscriber per Year	▶ \$5.79	▶ \$2.42	▶ \$1.44	▶ \$2.92	▶ \$.68	▶ \$1.10
Net Ad Revenue as a % of Revenue	▶ 48%	▶ 47%	▶ 35%	▶ 52%	▶ 39%	▶ 52%
Programming Expense per Subscriber per year	▶ \$7.81	▶ \$1.78	▶ \$1.35	▶ \$1.88	▶ \$1.23	▶ \$.93
Programming Expense as a % of Revenue	▶ 49%	▶ 39%	▶ 35%	▶ 32%	▶ 86%	▶ 54%

Source: Kagan, Booz Allen analysis

Given these six network segments, we then evaluated how the economics of networks and operators would be impacted under each of the three a la carte scenarios.

We developed specific “take rates” for networks once a consumer is in an la carte environment for Scenarios 1 or 2, and based on potential composition of an illustrative set of themed tiers for Scenario 3

Consumers would likely subscribe to different networks at varying levels of household penetration under a la carte. An individual network’s “take rate” would be driven by the percentage of its subscribers that are frequent versus occasional viewers, and the overall brand strength of the network (i.e., unaided awareness, consumer affect for the brand).

Under themed tiers, the take rate would be a function of the package composition chosen by operators, and the mix of themed tiers subscribed to by consumers.

Section IV includes more details on our specific assumptions for take rates by segment.

Booz Allen modeled the economics of both networks and operators, and evaluated the linkage between the two based on potential responses to the new a la carte environment

Because the outcome of negotiations between networks and operators in the new a la carte environment would be uncertain, we have focused our analysis on understanding the range of potential outcomes. In order to quantify the impact on consumer prices and programming diversity under the three scenarios, we have therefore modeled the outcome of two different responses by networks and operators for each scenario. Each response is an “extreme” end of the spectrum for how these interactions between networks and operators might play out. We recognize that most networks or operators would likely respond somewhere in between these two extremes.

Under the first response (“Response A: Networks Increase Total Affiliate Fees”), we have assumed that networks are able to increase their affiliate fees to fully offset lost cash flow due to lower advertising and higher marketing expenses under a la carte. While operators would resist paying higher affiliate fees for networks with reduced subscribers and lower ratings, under Response A they would keep networks whole because otherwise the quality of the cable offering would suffer. In this case, we have also assumed that operators would pass through all of this increase in affiliate fees (the operators’ programming expenses) to consumers. We have also modeled the incremental costs of provisioning a la carte, such as the opportunity cost of using spectrum to carry duplicated programming, additional digital set-top boxes required, and increased customer care costs.

Under the second response (“Response B: Networks Reduce Programming Expenses”), we have assumed that operators hold affiliate fees constant despite the pressures on networks. Faced with declines in cash flow, networks would be forced to cut their programming expenses to remain economically viable. Many networks would fail, and consolidation would occur as others were sold to large network groups.

Under both Response A and Response B, we have assumed that operators would seek to maintain their current cash flow and would price new offerings accordingly.

IV. Impact of A La Carte on Cable Network Economics

In order to determine the likely impact on different cable network’s economics, we have built an economic model that varies key drivers of revenues and costs that would be impacted under a la carte. This section deals with the impact on networks. The next section then deals with the likely impact on operators’ economics. Taken together, we then explore the interactions between the decisions of networks and operators to identify the implications for consumer prices and programming diversity.

Cable networks would face two primary economic challenges under a la carte: lost advertising revenues and higher marketing expenses (see Figure 12 below).

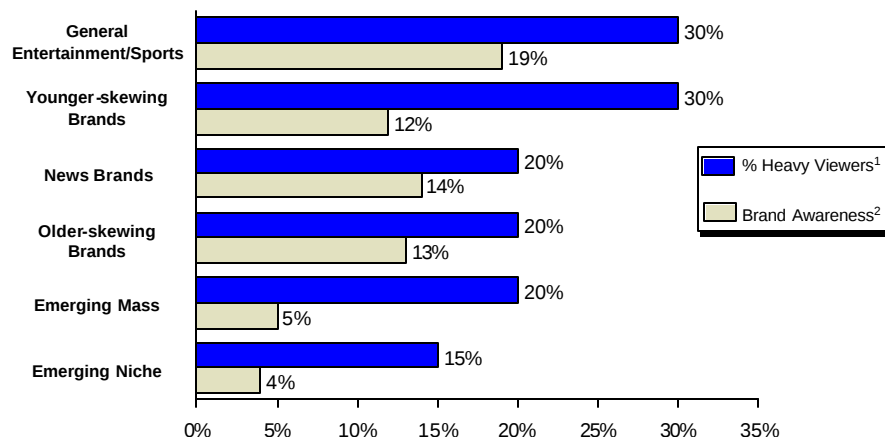
Figure 12: Overview of Model Levers — Cable Networks

Model Drivers		Impact of a la Carte
Network	Lost Advertising	▶ Advertising falls with lost occasional viewers ▶ Advertising is further impacted by reduced ability to monetize each rating point (ad dollars per rating point), given that advertisers place a premium on higher reach and all networks will fall below current “critical mass” for a cable network (50 to 70 million homes) ▶ Assume established networks’ ad dollars per rating point falls 10% and emerging networks’ ad dollars per rating point falls 20%
	Increased Marketing Costs	▶ Under a la carte, networks would compete for subscribers similar to premium networks and consumer packaged goods companies — requiring significantly increased marketing spend (e.g. advertising, promotions run with operators, training of operators’ customer service reps, etc.) ▶ Base new marketing spend levels on premium network and consumer goods benchmarks

Cable networks’ subscriber levels would fall dramatically under a la carte

Were consumers to receive networks a la carte rather than through current tiers, they would be likely to subscribe to far fewer networks than they do today. Only the heaviest viewers would be very likely to subscribe. Some “occasional” viewers would subscribe to continue to receive specific programs, though this would likely not result in a large number of current subscribers retained. In addition, the unaided brand awareness of each cable network is quite low (see Figure 13 below), suggesting consumers are likely to choose only a small number of networks to subscribe to, absent major expenditures on consumer branding and promotion.

Figure 13: Percentage of Heavy Viewers and Brand Awareness by Network Segment



Note: (1) Heavy viewers are the portion of the viewing audience that account for the majority of a given channel's viewing hours; these are the channel's 'core' viewers

(2) Brand awareness measures the percentage of survey respondents that recalled the name of a given network without prompting

Source: Network interviews, Beta Research Corporation, Booz Allen analysis

Consumers would also be less willing to pay for a network directly than as part of a bundle, as they would need to make a specific decision to include any one network in their selection of channels.

Based on these inputs, we have developed our own estimates of the maximum “take rates” under a la carte for the average network for each of our six network segments. We estimate that the highest take rate would be no more than 30% and as low as 10%.

Figure 14 below shows our estimates for the maximum take rates for networks in each of the six segments. Based on these take rates, the average a la carte household would subscribe to 11 cable networks, in addition to receiving those channels included in broadcast basic (e.g., local broadcast stations, PBS, educational and religious stations). This would represent a substantial reduction in the average number of cable networks per cable home today.

Program networks would likely lose more than two-thirds of their subscribers under a la carte.

Figure 14: Maximum Take Rates Per Network Segment Under A la Carte

Segment	Maximum Take Rate	Rationale
▶ General Entertainment and Sports	▶ 30%	▶ High brand awareness and highly rated ▶ High proportion of programming investment per sub for marquee programming (e.g., sports, movies, original series)
▶ Younger-skewing Brands	▶ 25%	▶ Established brands with high awareness and well-defined identities ▶ Networks are distinctly positioned and have fewer direct competitors
▶ News Brands	▶ 20%	▶ High brand awareness due to heavy sampling during peak news times ▶ However, most customers likely to pick just one cable news source, given need to pay for channel and competition from broadcast TV news, online, newspapers and radio
▶ Older-skewing Brands	▶ 15%	▶ Established channels with relatively high brand awareness ▶ However, heavy reliance on repurposed and other non-original programs could deter customers from becoming paying subscribers
▶ Emerging Niche	▶ 10%	▶ Current low distribution and low brand awareness; extremely dependent on occasional viewers ▶ Niche nature of channels results in small base of core viewers
▶ Emerging Mass	▶ 10%	▶ Low brand awareness ▶ Highly dependent on occasional viewers and samplers ▶ Low programming spend per sub results in lack of break-out programming needed to develop loyal subscriber base

For themed tiers, the “take rates” of networks would be a function of which networks were included in the themed tiers offered by operators. We therefore developed several illustrative themed tiers (e.g., family, sports, entertainment) and estimated what percentage of the networks in each segment would potentially be included in these themed tiers. We built up these assumptions for themed tier composition such that each themed tier had 10-20 cable networks included from across the six network segments, with the mix of networks from each segment varying for each of the illustrative themed tiers. We then used the average percentage of the networks in each

segment across the illustrative themed tiers to develop overall take rate assumptions for Scenario 3.

Based on this analysis, we found that the resulting take rates by segment for themed tiers were not materially different from those shown in Figure 15 for a la carte. We therefore used the same take rates for both Scenario 2 and 3. This was a result of the analysis, not an assumption with which we started.

It is important to note that these take rates represent the maximum proportion of consumers that are likely to pay for a network. The take rate of any specific network would clearly depend on the retail price charged by an operator and the degree of marketing and promotion to encourage consumers to subscribe.

The actual sensitivity of consumers to changes in what price per channel operators offered under a la carte is highly uncertain. However, by estimating the maximum feasible take rate, we can then determine what the implications would be for networks and operators given the impact that such a take rate would have on their economics.

Were consumers to choose even fewer channels as a result of high per channel pricing, then consumers electing a la carte would end up receiving fewer channels than they would have otherwise preferred.

Total viewing per network would fall under each a la carte scenario, though by less than the loss in subscribers

Today, networks have an opportunity to capture viewing from a subscriber base including both heavy and occasional viewers. Occasional viewers include those who are sampling the network's programming for the first time or are less frequent viewers given their interests or frequency of watching television. As only the heaviest viewers of any network, and a small proportion of occasional viewers highly committed to specific programs would be likely to pay to subscribe to the network on a standalone basis (unless per channel prices were set at levels so low that networks were no longer viable), networks would necessarily lose a significant portion of their viewing audience.

To estimate the lost viewing per network under a la carte, we have developed assumptions for what proportion of total viewing heavy viewers represent today, and adjusted these figures down to reflect the likelihood that not all heavy viewers will choose to subscribe when required to pay separately for a network, and that some of the subscribers would be lighter viewers (see Figure 15 below).

Figure 15: Estimated Lost Viewing Under A La Carte
(% Change in TV Households Delivered)

Segment	Scenario 1	Scenario 2 & 3
Emerging Mass	-56%	-29%
Emerging Niche	-45%	-24%
Older-Skewing	-34%	-19%
Younger-Skewing	-29%	-16%
News	-12%	-8%
General Entertainment & Sports	-18%	-11%
Weighted Average ¹	-23%	-13%

Note: (1) Based on current revenues per segment

Source: Booz Allen analysis

The declines in viewing are lower for Scenarios 2 and 3 given lower proportions of households choosing a la carte than for Scenario 1 (where all consumers are a la carte). These figures represent averages for each segment; some networks would experience much larger declines in viewing, particularly some emerging networks that depend more heavily on occasional viewers as they build awareness.

The estimates shown above also reflect the likelihood that, while total cable viewing would likely fall in an a la carte household, consumers would potentially watch the channels they want to receive more, given a lower number of viewing options available to them. As a result, we have included a 10% increase in viewing per channel that partially offsets the decline in audience from lost occasional viewers.

Taken in aggregate across cable networks, a la carte would result in a reduction in total cable viewing, which would erode the historical advertising subsidy that consumers have received for cable service.

Cable networks' advertising revenues would fall due to reduced viewing

Advertising revenues are a function of the size of the audience delivered (i.e., ratings), and the ability of the network to monetize those ratings through higher ad revenue per rating point delivered. Higher ad dollars per rating point can result from either higher pricing, expressed in cost-per-thousand viewers (CPM) and / or higher sell-out of a network's inventory of available spots. Given that we estimate viewing would fall by between 8% and 56% depending on the network segment and scenario (see Figure 15 above), networks would not be able to maintain current advertising revenues.

Cable advertising would become a less efficient medium under a la carte, leading advertisers to reduce their spending on cable in favor of other media or means of marketing to consumers. Advertisers set goals for both reach and frequency. Typically, advertisers try to reach consumers 3 to 4 times per purchase cycle and aim to maximize the reach into their target market given their media budgets. Advertisers prefer to avoid consumers seeing ads more than 3 to 4 times because it increases the “wear out” of the ad — there are diminishing returns for additional frequency.

With a smaller average audience viewing each cable spot, advertisers would need to increase the number of cable spots purchased to reach the same audience, increasing the risk of wear out. As a result, many advertisers would likely reduce their spending on cable advertising.

A la carte would therefore have the effect of “rolling back the clock” for both cable networks and TV advertisers. While spending on cable advertising would fall, the overall cost of

Cable advertising would be a less effective medium, negatively impacting advertisers.

advertising for companies in general would likely rise. Advertisers would likely need to divert some of the money taken out of cable to higher cost broadcast TV, or to other targeted media they have historically viewed as less efficient than cable.

In addition, cable networks with lower distribution have historically generated less advertising revenues per rating point than those that have reached coverage of 50% to 70% of households. This is the national coverage threshold generally recognized by advertisers as warranting significant consideration in the allocation of their budgets. Many advertisers do not consider advertising on networks or syndicated programming below this national coverage threshold. Those that do are also very likely to demand lower CPMs.

Under the a la carte scenarios evaluated, many networks fall below this national coverage threshold. As a result, cable would become fundamentally less attractive as a medium for advertisers. Under all scenarios, we have assumed that networks’ average dollars per rating point fall by 10% for established network segments and by 20% for emerging network segments. This is likely conservative, as many networks could lose advertising altogether if advertisers stopped buying spots on networks that fall below their current national coverage threshold of 50% to 70% of households.

Cable networks would need to substantially increase their marketing expenditures in an a la carte environment

Networks, more so than operators, would face an increased marketing challenge under a la carte. Networks would have to increase marketing spend to convince a la carte households to subscribe. Today most networks focus their marketing spend and activities on reaching operators and partnering with operators to market to viewers. As a result, marketing expenditures are quite low today as a proportion of revenues, averaging between 2-6% of total net revenues based on the scale of the network.

Program networks would need to spend roughly one-fifth more of current revenues on marketing, reducing investment in programming and making small networks less viable.

Under a la carte, the focus will shift to marketing directly to consumers. Reaching non-subscribers and convincing them to pay for a network poses a more significant marketing challenge than most networks face today (see Figure 16 below). This

challenge is similar to the marketing challenges of premium channels (e.g., HBO, Showtime, Starz Encore), as well as to that of consumer packaged goods companies. Premium networks not only spend considerably more on buying advertising to reach consumers directly, they also provide extensive promotional support to operators in the form of free months, off-invoice discounts, and footing the bill for promotional campaigns and training of operators' customer service representatives. In contrast to basic cable networks, premium networks spend approximately 15-25% of net revenues on advertising and promotions. When the Disney Channel was a premium network, its marketing spend was in this range, and has since fallen significantly now that it is a basic service.

Figure 16: Benchmarks for Marketing Spend

	Marketing as Percent of Sales ¹
Consumer Packaged Goods	15–27%
Premium Cable Networks	15–25%
Basic Cable Networks Today	2–6%

Note: 1) Marketing includes advertising, consumer promotions and trade promotions

Source: Disney Channel, Showtime, HBO, Advertising Age, Booz Allen client experience

Consumer goods companies present another potential analogy for the likely impact of a shift to la carte on basic cable networks' marketing expenditures. Consumer packaged goods companies need to spend significantly on advertising to "pull" consumers into the stores and build loyalty to their brands, as well as "push" marketing to maximize shelf space and promotional support in the store. These combined expenditures typically average between 15-27% of net sales for consumer packaged goods companies.

We believe that cable networks would need to increase their marketing spend to at least a level consistent with premium networks and consumer goods benchmarks. Under a la carte, cable networks would face a much more cluttered environment than premium networks. Moreover, many cable networks are much smaller scale than premium networks and consumer goods companies (i.e., in terms of annual sales and number of employees), and many of the costs of marketing are sensitive to scale (e.g., advertising spots, marketing staff). As a result, many networks would likely face higher marketing costs, as a percentage of sales, than the benchmarks shown in Figure 16.

Given reduced advertising and higher marketing expenditures, networks would need to raise affiliate fees to operators and/or seek reductions in other expenditures

Cable networks benefit greatly from fixed cost leverage as they expand their distribution and audience. However, this benefit would turn into a significant constraint were networks to suffer a sudden and significant loss in distribution. Most networks have made large cumulative investments to grow distribution and ratings. Many established and emerging networks make multi-year commitments for acquired programming, or make targeted investments in building a library of original programming that they can use to define their brand identity and cost-effectively generate ratings over a long time horizon. In addition, many emerging networks have historically paid one-time “carriage payments” to operators to increase distribution and better monetize their investments in programming. Carriage payments represent one-time payments by networks to operators to get specific networks on the cable lineup. In addition, networks incur significant cumulative losses during their initial years that require high returns for later years to achieve an attractive return on investment.

Faced with lower advertising revenues and higher marketing costs, networks would seek to maintain their current cash flow margins. To do so, they would either need to raise wholesale rates significantly to operators, and/or cut their costs. Given the fixed cost nature of the network business, there would be only limited room for most networks to cut their expenses. As a result, networks would likely need to reduce their programming expenditures in order to stay financially viable. This clearly would pose major risks for networks, as programming is critical to maintain ratings, and advertising sales — and subscriber levels under a la carte.

V. Impact of A La Carte on Cable Operator Economics

Cable operators would face a different set of revenue and cost issues than networks (see Figure 17).

Figure 17: Overview of Model Levers — Cable Operators

Model Drivers		Impact of a la Carte
Operators	Lost Local Advertising	▶ Reduced total cable viewing for cable networks on which operators can insert spots
	Increased Customer Care Costs	▶ Customer care costs will increase due to increased call volumes, truck rolls and more complex billing systems ▶ Used wireless telephony as a benchmark for new cost levels
	Cost of Digital Set-Top Boxes	▶ Digital set top boxes are required for all TVs in households choosing a la carte – Each TV in an analog home must be upgraded – Remaining TVs without digital set-top-boxes in digital homes must be upgraded
	Programming Costs	▶ In Response A, programming costs increase as networks keep margins constant; there is no impact to programming costs in Response B
	Opportunity Cost	▶ Revenue lost from terminated video services on digital spectrum reallocated to duplicate analog tier (gain for Scenario 1 due to freed up spectrum with 100% of households digital)

Operators would lose local advertising revenues due to lower cable viewing

Today, cable operators generate approximately \$5 per subscriber per month from local advertising. Local cable is the fastest growing segment of advertising, given its high degree of targeting, the growth of inventory due to more insertable networks, and sell-out for a growing proportion of this inventory. Because total cable viewing would fall under a la carte, local cable advertising would fall to a lower base of sales.

Ongoing customer care costs would increase substantially under a la carte

After programming, customer care represents the next largest cost center for operators (excluding depreciation and amortization). Primary customer care expenses include rolling trucks to customer premises for repairs or installation, operating call centers, and billing.

We believe wireless telephony is a reasonable proxy for the increased complexity cable operators would face under a la carte. Wireless telephony operators present customers with a much broader set of pricing plans, and face a more complex billing environment. Customer care costs for wireless operators currently average approximately \$5.75 per subscriber per month, compared to \$3.25 for cable operators.

Billing complexity would go up significantly under a la carte. Operators would need to maintain more sophisticated IT systems and more complex printing operations.

The cost of operating call centers would also likely increase under a la carte due to higher call volume and longer call duration. The complexity of the product would increase, with customers needing to spend time on the phone during order activation to understand their options and to choose among them. This is significant for operators, as approximately 25% of customers move in or out in a given year. In addition, customers would be more likely to call to change their current service, resulting in increased call frequency. Greater customer turnover, such as for premium networks today, would further impact call center volumes.

As a result, we estimate that the combined cost of billing and call centers would increase from \$3.25 for the average cable operator to \$5.75 for Scenario 1, and to \$5.25 for Scenarios 2 and 3. Operators would be likely to pass these incremental costs through to all consumers.

Under a la carte, operators would pass through the costs of digital set-top boxes for each TV in the home with cable access

As discussed earlier in defining the scenarios and their implementation requirements, operators would need to provision digital set-top boxes for all homes taking a la carte or themed tiers. Operators would bear significant upfront capital costs to purchase these boxes. To recoup their investments, operators would be likely to charge a monthly rental fee to those consumers taking a la carte at least equal to their carrying costs.

Today, digital is still in only about 30% of cable homes. Moreover, only about 1.7 of the average three TVs per home have digital set-top boxes in digital homes. All three TV

sets would require digital set-top boxes for current analog homes that choose to take a la carte.

For the purposes of our analysis, we focused on today's installed base of digital set-top boxes. To the extent that roll outs for digital accelerated, the proportion of consumers bearing this additional cost would fall.

Assuming operators charged \$4 per box, the current average rental fee across operators, the average a la carte consumer would therefore face a roughly \$12 increase in his or her monthly bill just due to the rental fee for set-top boxes. Those with digital already would face a roughly \$5 increase in their monthly bill, as few have boxes on all TV sets in their home that receive cable service.

Operators would incur an opportunity cost for duplicated spectrum so long as analog distribution is maintained for current tiers

Operators would likely choose to provision a la carte channels or themed tiers as simultaneously carried duplicative signals using digital spectrum. Alternatively they would need to reorder their channel lineups to make any tiers contiguous, which would be extraordinarily challenging given current contractual agreements, and have adverse impacts given the value of channel position in driving viewing.

Duplicating channels would require 6 MHz for every 10 networks offered a la carte, based on current digital compression norms. Based on the average channel line-up for an MSO in extended basic, operators would need to take about 30 MHz of digital spectrum away from other offerings. This spectrum has an opportunity cost for operators, either because it is directly revenue generating (e.g., pay-per-view) or critical to maintaining customer service levels (e.g., broadband, cable telephony).

We have estimated the opportunity cost based on the revenue per MHz that operators are currently realizing from digital pay-per-view, as this is the area they would be most likely to take spectrum away from to support a la carte. Today, operators are receiving about \$0.50 per subscriber per MHz per year from digital PPV. This translates into an opportunity cost of between \$1.20 and \$0.40 per subscriber per month for Scenarios 2 and 3, respectively. (For Scenario 1, we have included a revenue benefit due to freed up spectrum of \$0.10 per MHz. The margin benefit of additional spectrum would be lower than that of lost spectrum, due to diminishing returns from offering even more channels than today).

Operators would seek to maintain current cash flow under any a la carte scenario, which would require raising prices to consumers given increased costs

Under both Response A and Response B, we have assumed that operators would seek to maintain their current cash flow (EBITDA) and would price new offerings accordingly (absent any rate regulation, which is not currently being considered). This is consistent with our experience working with clients on new product launches.

Operators are currently highly leveraged and face large ongoing requirements to maintain their plant and equipment. Current interest expense averages about \$10 per subscriber per month, and depreciation (maintenance of plant requires capital

expenditures equal to depreciation over the long run) averages about \$15 per subscriber per month. Taken together, interest and depreciation total to approximately 40% of current average revenues per subscriber.

Operators currently generate earnings before interest, taxes, depreciation and amortization (EBITDA) of approximately 36%. As a result, operators are dependent on growth in future revenues to cover these expenses and provide a return to equity holders. This gap reflects operators' expectation that future revenues from new services will increase.

VI. Implications for Consumer Prices

As discussed in the previous section, we have modeled two “extreme” ends of the spectrum of possible responses of an individual network or operator. In this section, we will discuss the implications for consumer prices under Response A and B for each of the three scenarios modeled (see Figure 18 below). In the next section, we will then discuss the implications for programming diversity.

Figure 18: Overview of Response A & B

	Response A: Networks Increase Affiliate Fees	Response B: Networks Reduce Programming Expense
Cable Networks	▶ Advertising drops in proportion to lost viewing and by an additional decrease in advertising dollars/rating point ▶ Marketing costs increase ▶ Other operating costs and other revenues remain constant ▶ Programming costs remain constant ▶ In order to keep cash flow constant, affiliate revenue increases to counterbalance lost advertising and increased marketing costs	▶ Advertising drops in proportion to lost viewing and by an additional decrease in advertising dollars/rating point ▶ Marketing costs increase ▶ Other operating costs and other revenues remain constant ▶ Affiliate revenues stay constant ▶ If cash flow margin decreases by more than one-third, then programming drops by 15% or amount necessary to maintain a minimum 10% margin
Cable Operators	▶ Operators price new offerings to maintain current cash flow ▶ Additional set-top boxes priced at breakeven ▶ Additional costs of customer care and duplicated spectrum are borne by all consumers ▶ Other operating costs remain constant	
	▶ Programming costs increase as network affiliate fees rise ▶ Consumers share increased programming costs proportional to number of channels they receive	▶ Programming costs remain constant

In Response A: Networks Increase Total Affiliate Fees, program networks would need to raise affiliate revenues to make up the gap caused by lost advertising and higher marketing expenses under a la carte.

We estimate that under Response A: Networks Increase Total Affiliate Fees, cable operators would need to set pricing for the new a la carte or themed tier offerings such that the average consumer choosing a la carte or themed tiers would incur a 23% to 30% increase in their monthly cable bill (see Figure 19 below). This increase in the cable bill would reflect higher programming costs and ongoing operating expenses for the operator, as well as the need for most consumers to rent digital set-top boxes. Under Response B: Networks Reduce Programming Expense, in which operators do not accept affiliate fee increases from networks, monthly cable bills for a la carte or themed tier customers would still need to be 14% to 21% higher than today.

Based on our experience working in the industry, we believe the likely outcome would be at least the midpoint of these two extremes, if not closer to Response A. Operators would recognize the importance of quality programming to maintain the attractiveness of their offerings to consumers, and would need to accept higher total affiliate fees from program networks. As a result, we would expect the average bill for those taking a la carte to increase by about 22%, the mid-point between Response A and Response B (see Figure 19 below).

Figure 19: Consumer Price Changes

Response A: Networks Increase Total Affiliate Fees							Response B: Networks Reduce Programming Expense						
	Keeps Tier			A La Carte				Keeps Tier			A La Carte		
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3		Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
Program - ming Cost	N/A	10.3%	9.7%	16.6%	2.4%	3.0%	Program - ming Cost	N/A	0%	0%	0%	0%	0%
Set-Top Boxes	N/A	0%	0%	15.7%	15.7%	15.7%	Set-Top Boxes	N/A	0%	0%	15.7%	15.7%	15.7%
Customer Care	N/A	3.2%	3.2%	4.0%	3.2%	3.2%	Customer Care	N/A	3.2%	3.2%	4.0%	3.2%	3.2%
Total	N/A	13.4%	12.8%	36.3%	21.3%	21.9%	Total	N/A	3.2%	3.2%	19.7%	18.9%	18.9%
Opportunity Cost of Spectrum	N/A	1.9%	1.4%	-5.9%	1.9%	1.4%	Opportunity Cost of spectrum	N/A	1.9%	1.4%	-5.9%	1.9%	1.4%
Total	N/A	15.3%	14.2%	30.3%	23.2%	23.3%	Total	N/A	5.1%	4.5%	13.8%	20.8%	20.3%

Most Likely Case for Scenarios 2 and 3 for those Keeping Current Tiers		
50% of Consumers Take a la Carte	10% to 15%	► Expect that price increase is at least as large as the midpoint between Response A and Response B
Very Few Consumers Take a la Carte	7%+	► Reflects opportunity cost of spectrum and reduced impact for operator programming costs and customer care costs

Note: Totals may differ slightly due to rounding
Source: Booz Allen analysis

Consumers currently lacking digital set-top boxes, more than two-thirds of households today, would be particularly constrained in the number of cable networks they could select before facing an increase in their monthly cable bill. After paying for broadcast basic and rental fees for digital set-top boxes, most consumers would have just \$28 left to spend on cable

Operators would price channels at \$4 to \$5 each. As a result, most consumers would be able to subscribe to only six cable networks before facing a higher monthly cable bill.

networks before their monthly bills went up (see Figure 20 below). Given the consumer rate increases shown in Figure 19, the average price per channel for a la carte would be approximately \$4 to \$5. This represents the likely range for the average cable network.

Figure 20: Average Number of Channels Taken Assuming No Change in Consumer Cable Bill

Response A: Networks Increase Total Affiliate Fees					Response B: Networks Reduce Programming Expense				
	Digital Home		Analog Home			Digital Home		Analog Home	
	Scenario 1	Scenario 2	Scenario 1	Scenario 2		Scenario 1	Scenario 2	Scenario 1	Scenario 2
Broadcast Basic Cost	\$15.00	\$15.00	\$15.00	\$15.00	Broadcast Basic Cost	\$15.00	\$15.00	\$15.00	\$15.00
Set Top Box Fees	\$5.20	\$5.20	\$12.00	\$12.00	Set Top Box Fees	\$5.20	\$5.20	\$12.00	\$12.00
Subtotal	\$20.20	\$20.20	\$27.00	\$27.00	Subtotal	\$20.20	\$20.20	\$27.00	\$27.00
Remaining Spend in Consumer Bill¹	\$34.80	\$34.80	\$28.00	\$28.00	Remaining Spend in Consumer Bill¹	\$34.80	\$34.80	\$28.00	\$28.00
Price per Channel²	\$4.73	\$4.37	\$4.73	\$4.37	Price per Channel²	\$3.90	\$4.25	\$3.90	\$4.25
Average # Channels Afforded Before Bill Increase	7.4	8.0	5.9	6.4	Average # Channels Afforded Before Bill Increase	8.9	8.2	7.2	6.6

Note: 1) The total consumer bill equals the current video ARPU (pre a la carte) of \$55

2) The price per channel is calculated using the average increased consumer bill amounts and # of channels chosen under the different a la carte scenarios

Source: Booz Allen analysis

The average price per channel would likely vary considerably across channels under a la carte, with some networks priced above this range and others below it. As a result, the average analog household would be able to buy just six channels before its cable bill went up (the actual number would vary based on the mix of channels selected). For digital households, the breakeven point would increase to nine channels.

Most households are frequent viewers of more program networks than six to nine cable networks. Nielsen Media Research estimates that the average household watches 17 channels among those it receives, including cable networks and local stations. Cable networks with which we spoke also indicate that roughly 60% to 80% of their viewing is from regular, heavier viewers. Extrapolating from this information, we estimate that the average consumer regularly watches about a dozen cable networks. Most cable subscribers would therefore likely choose to remain with current tiers rather than pay more for fewer channels than they regularly watch today.

Even consumers staying with current tiers would see an increase in their monthly bill. Operators would pass through incremental costs of establishing a la carte or themed tier options. These would include, at a minimum, the opportunity cost of using spectrum to duplicate programming on analog tiers, and due to a more labor intensive and complex customer care environment. Moreover, program networks would seek to raise their

affiliate fees to cover higher marketing expenses and lost advertising revenues under a la carte. Operators would likely also seek to pass through any additional increase in affiliate fees.

We estimate that the average consumer keeping current tiers would pay 14% to 15% than today under Response A: Networks Increase Total Affiliate Fees (see Figure 19 above). The average monthly bill for those keeping current tiers would still go up by at least 4% to 5% under Response B: Networks Reduce Programming Expense. As discussed above, however, our professional judgment is that the likely outcome would be at least the mid-point between Response A and Response B, if not closer to Response A, otherwise operators would face a worsening in the quality of their product due to failed networks, less diverse programming offerings, and lower programming expenditures by networks.

Moreover, consumer prices for those keeping current tiers would need to increase substantially even if a much lower percentage of consumers selected a la carte or themed tiers than the 50% modeled for Scenarios 2 and 3. The costs associated with establishing an a la carte or themed tier option would not vary significantly with the number of consumers choosing such options. Program networks would still need to increase marketing costs given the risk that consumers would drop them. Operators would incur additional costs of duplicated spectrum regardless of how many consumers opted for the new options. Operators would also incur higher costs for call centers to explain the new options, and for establishing more sophisticated billing capabilities.

We estimate that consumers would bear at least a 7% increase in their monthly bill for current tiers even if no consumers ultimately moved to a la carte (see Figure 19 above). This “floor” on the likely consumer price increase for those keeping current tiers reflects a reduced impact assumed for incremental costs for program networks for marketing and for operators for customer care. Costs of duplicated spectrum would not change.

VII. Implications for Programming Diversity

In addition to higher monthly cable bills, offering a la carte would result in consumers receiving less diverse programming than today. The reduction in programming diversity would be larger the greater the number of consumers that migrate to a la carte.

Under both Response A and Response B, networks would face much more challenging economics due to lost advertising and higher marketing expenses. Advertising would fall by between 20% to 60%, depending on the specific network segment due to lost viewing and falling rates for advertising inventory as cable became a less efficient medium for advertisers. In addition, network marketing expenses would need to increase from today’s 2% to 6% of revenues, to as much as 20% to 30% of revenues. These marketing cost estimates are benchmarked on current spending levels for premium cable networks and consumer goods companies. We believe these marketing

costs are conservative, as a la carte would create a much more cluttered environment in which to compete than premium networks face today. Moreover, many cable networks are much smaller in scale than premium networks and consumer goods companies, and many of the costs of marketing are sensitive to scale (e.g., advertising spots, marketing staff).

Under Response A: Networks Increase Total Affiliate Fees, existing networks would be able to offset these adverse impacts on their economics through higher affiliate fees. However, new network launches would be constrained, and networks with low distribution and brand awareness today would face difficulty increasing their reach. Few subscribers would pay \$4 to \$5 for networks that they have not yet sampled. Emerging networks would need to spend considerable sums on marketing and would face an uphill battle to stand out from the clutter. They would be at a significant disadvantage relative to the current system of fixed tiers, in which a stable distribution environment lowers the risk profile of multi-year investments in programming to build an audience.

Under Response B: Networks Reduce Programming Expense, the impact on all networks would be much more significant. Because networks would be unable to increase their total affiliate revenues under this case, they would face lower cash flow and the need to cut programming expenses to remain viable. This would result in a negative feedback loop in which ratings fell further, resulting in additional pressure on advertising and cash flow.

The negative feedback loop would be most pronounced under Scenario 1, pure a la carte (see Figure 21 below).

Figure 21: Network Failure Rate
Response B: Networks Reduce Programming Expense

Scenario 1					Likely Result
Segment	Baseline Cash Flow Margin	Scenario Cash Flow Margin	Baseline Programming Spend (\$MM)	Scenario Programming Spend (\$MM)	
Emerging Niche	18%	10%	\$41	\$9	▶ Most networks fail
Emerging Mass	27%	10%	\$64	\$4	▶ Most networks fail
General Entertainment & Sports	34%	10%	\$667	\$562	▶ Many fail and programming quality will fall significantly
News	40%	17%	\$153	\$130	▶ Some fail and programming quality falls significantly
Older-Skewing	42%	14%	\$112	\$95	▶ Some fail and programming quality falls significantly
Younger-Skewing	49%	19%	\$159	\$135	▶ Some fail and programming quality falls significantly

Note: In Response B, if cash flow margin decreases by more than one-third, then programming drops by 15% or amount necessary to maintain a minimum 10% margin

Source: Booz Allen analysis

The average cash flow margins of both Emerging Mass and Emerging Niche networks would fall sharply and programming expenditures would need to be cut dramatically under Scenario 1. The cash flow impacts show in the chart above represent only the first iteration of how this would unfold. Lower programming spending would likely lead to lower viewing levels, which would in turn lead to further reductions in advertising and cash flow. It is not clear where the new equilibrium would be, and how much consolidation would be required for industry economics to stabilize.

Half to three-quarters of emerging networks would fail under a la carte. New network launches would be extremely rare.

As a result, most networks in Emerging Niche and Emerging Mass segments would fail, or would be sold to larger groups that might attempt to salvage the networks through reduced costs and / or repositioning them.

Today, these networks represent the vast majority of networks among the 339 national and 84 regional networks currently available. We estimate that under Scenario 1 at least three-quarters of emerging networks would either fail or be sold to network groups that could capture greater scale economies. Moreover, few if any new networks would launch given the potential returns available.

While other, established network segments would be more likely to remain economically viable under Response B: Networks Reduce Programming Expense, they would also experience significant cash flow pressures. A similar loss in cash flow would be likely, necessitating a reduction in programming investment. Similar to emerging segments, many independently-owned networks would likely fail or be sold to network groups that could capture greater scale economies. We estimate that between 25% to 33% of established networks would likely fail under Scenario 1.

Widespread network failure and consolidation would also likely occur for Scenarios 2 and 3, in which a la carte or themed tiers are offered as an option to consumers but operators continue to offer current tiers. Again, the cash flow impacts shown in the chart below represent only the first cycle of the negative feedback loop, given reductions in programming required to maintain cash flow at these reduced levels.

Figure 22: Network Cash Flow Margin Change
Response B: Networks Reduce Programming Expense

Scenario 2 & 3					Likely Result
Segment	Baseline Cash Flow Margin	Scenario Cash Flow Margin	Baseline Programming Spend (\$MM)	Scenario Programming Spend (\$MM)	
Emerging Niche	18%	10%	\$41	\$19	▶ Many networks fail
Emerging Mass	27%	10%	\$64	\$27	▶ Many networks fail
General Entertainment & Sports	34%	17%	\$667	\$567	▶ Several fail and programming quality falls
News	40%	24%	\$153	\$130	▶ Some fail and programming quality falls
Older-Skewing	42%	25%	\$112	\$95	▶ Some fail and programming quality falls
Younger-Skewing	49%	30%	\$159	\$135	▶ Some fail and programming quality falls

Note: In Response B, if cash flow margin decreases by more than one-third, then programming drops by 15% or amount necessary to maintain a minimum 10% margin
Source: Booz Allen analysis

We estimate that at least half of emerging networks would fail under Scenarios 2 and 3. Nearly half of these networks have cash flow margins that are currently negative. Under a la carte, these networks would never have an opportunity to become viable. Many more lose the ability to generate any cash flow due to lost advertising and higher marketing expenses (see Figure 22 above).

While most networks in other segments would likely remain viable under Scenarios 2 and 3, further industry consolidation would likely occur. Beyond independently owned networks selling to larger network groups, the major network groups might also seek to merge to improve operating performance and returns for shareholders.

As a result, the introduction of a la carte or themed tiers would lead to a reduction in the diversity of programming available to consumers, as well as greater concentration of media ownership.

Appendix

•	Project Scope, Interviews Conducted and Sources Reviewed	40
•	Detailed Economic Model	41
	1. Network Segments	
	2. Network Variables	
	3. Impact on Network Segments	
	4. Impact on Average Network	
	5. Cable Operator Variables	
	6. Impact on Cable Operators	
	7. Impact on Consumer Prices	
	8. Number of Channels to Maintain Current Cable Bill	
•	About Booz Allen Hamilton	55
•	CV's of Study Team	57

Project Scope, Interviews Conducted and Sources Reviewed

This report presents the findings of an independent study conducted by Booz Allen for the NCTA. The study addresses what the likely impact on consumers of mandatory a la carte program networks would be. Specifically, the NCTA asked Booz Allen to assess the likely impact on consumer prices and program diversity.

To determine this, we examined how mandatory a la carte access to program networks (or themed tiers) would impact the economic models of program networks and cable operators:

- Incremental costs to establish an a la carte option
- Impact on revenues and costs
- Viability of different players and ability to invest in the business

Booz Allen developed a detailed economic model to assess the impact of a la carte on consumers, networks, and operators under alternative scenarios. We built the economic using our professional judgment based on our years of experience working in the media and entertainment industry. We used non-proprietary sources to build the economic model, including syndicated research sources such as Kagan, Beta Research, Mediaweek, NCTA, Cable Advertising Bureau, as well as aggregation of interview findings.

Booz Allen sought out input from networks (including networks part of groups and stand-alone player), cable operators and advertising buyers across a wide range of large and small networks and operators.

The following illustrates the breadth of interview sources:

- ▶ Networks: ABC Family, AETN, Disney Channel, Discovery Networks, ESPN, Golf Channel, Hallmark Channel, Home Box Office, MTV Networks, NBC Universal, Outdoor Life, Oxygen, Scripps, Showtime, Tech TV, Turner Networks
- ▶ Operators: Cablevision, Charter, Comcast, Cox Communications, Insight, Mediacom, RCN, Time Warner Cable
- ▶ Advertising Buyers: Magna, OMD, PHD USA

Beyond primary interviews, we reviewed a variety of secondary research sources, among them financial analysts, testimony from the Consumers Union, reports commissioned by industry players, and a general literature review of articles and press releases over the past few years.

Network Segments

INPUTS 2003 NETWORK COMPOSITES		Units	Gen Ent / Sports	Younger-Skewing	Older-Skewing	News	Emerging Mass	Emerging Niche
Avg Distribution	Year End Subs (MM)		86.5	84.1	80.2	85.6	63.8	34.2
Avg Audience Delivered	Avg 24-hr TV HH (000)		842	436	374	423	254	311
Avg Rating	Among All TV HH		0.78	0.40	0.35	0.39	0.23	0.29
Avg License Fee / Sub	\$/Sub/Month		\$0.67	\$0.25	\$0.18	\$0.20	\$0.08	\$0.09
Ad Dollars/Rating Point	\$ (MM)		\$653	\$617	\$353	\$535	\$343	\$131
Other Revenues	% of advertising and affiliate revenues		4.2%	2.4%	2.7%	6.2%	1.4%	3.8%
Programming Expenses	% of Revenues		54%	32%	37%	34%	42%	52%
Marketing Expenses	% of Revenues		2.0%	5.0%	5.0%	5.0%	5.0%	5.0%

OPERATING STATEMENT		Units	Gen Ent / Sports	Younger-Skewing	Older-Skewing	News	Emerging Mass	Emerging Niche
REVENUES								
Advertising Revenues	Annual (\$MM)		\$507.43	\$248.10	\$121.88	\$208.64	\$80.26	\$37.66
Affiliate Revenues	Annual (\$MM)		\$674.10	\$242.96	\$170.44	\$210.46	\$68.26	\$39.55
Other Revenues	Annual (\$MM)		\$49.73	\$11.74	\$7.80	\$25.82	\$2.04	\$2.91
Total Revenues	Annual (\$MM)		\$1,231.25	\$502.80	\$300.12	\$444.92	\$150.56	\$80.12
COSTS								
Programming Expenses	Annual (\$MM)		\$667.41	\$158.85	\$112.10	\$152.78	\$63.85	\$41.40
Marketing Expenses	Annual (\$MM)		\$24.63	\$25.14	\$15.01	\$22.25	\$7.53	\$4.01
Other Op Expenses	Annual (\$MM)		\$120.96	\$74.55	\$46.27	\$93.69	\$39.23	\$20.20
Total Non-Programming Expenses	Annual (\$MM)		\$145.59	\$99.69	\$61.28	\$115.94	\$46.75	\$24.20
Total Expenses	Annual (\$MM)		\$813.00	\$258.54	\$173.38	\$268.72	\$110.61	\$65.60
Cash Flow (EBITDA)	Annual (\$MM)		\$418.25	\$244.26	\$126.74	\$176.20	\$39.95	\$14.52
Cash Flow Margin	Annual (\$MM)		34.0%	48.6%	42.2%	39.6%	26.5%	18.1%

METRICS		Units	Gen Ent / Sports	Younger-Skewing	Older-Skewing	News	Emerging Mass	Emerging Niche
Advertising Revenue Per Sub			\$5.87	\$2.95	\$1.52	\$2.44	\$1.26	\$1.10
Advertising Revenue as % of Total Revenue			41%	49%	41%	47%	53%	47%
License Fee Revenue as % of Total Revenue			55%	48%	57%	47%	45%	49%
Programming Expenses as % of Revenue			54%	32%	37%	34%	42%	52%
Programming Expenses Per Sub			\$7.72	\$1.89	\$1.40	\$1.78	\$1.00	\$1.21

COMPOSITE MEMBERSHIP		1	2	3	4	5	6
		Gen Ent / Sports	Younger-Skewing	Older-Skewing	News	Emerging Mass	Emerging Niche
Weighting by Baseline Revenues		44%	18%	7%	10%	7%	14%

Note: Network segmentation based on statistical analysis of non-proprietary data. Figures shown above are averages for those networks included in a segment

Source (including segmentation analysis): Kagan, MediaWeek, Beta Research, Booz Allen analysis

1. Network Variables

VARIABLES	Units	Scenario 1		Scenario 2		Scenario 3	
		Response A	Response B	Response A	Response B	Response A	Response B
Take-rate for a la carte	% of baseline distribution	100%	100%	50%	50%	50%	50%
Viewing multiplier: ratio %: hours watched (goes up because fewer channels to chose from)	1.10	1.10	1.10	1.05	1.05	1.05	1.05
Total number of HHs	108,410,160						
GENERAL ENTERTAINMENT / SPORTS		Response A	Response B	Response A	Response B	Response A	Response B
Segment take rate	% of baseline distribution	30%	30%	30%	30%	42%	42%
Retained audience	% of TVHH delivery	75%	75%	75%	75%	75%	75%
Ad Dollars/Rating Point	Increase/Decrease by	-10%	-10%	-10%	-10%	-10%	-10%
Affiliate Fee/Sub	Increase/Decrease by	425%	226%	122%	50%	103%	38%
Programming Expenses	Increase/Decrease by	0%	-16%	0%	-15%	0%	-15%
Marketing Expenses	% of Revenues	25%	25%	20%	20%	20%	20%
YOUNGER-SKEWING		Response A	Response B	Response A	Response B	Response A	Response B
Segment take rate	% of baseline distribution	25%	25%	25%	25%	25%	25%
Retained audience	% of TVHH delivery	65%	65%	65%	65%	65%	65%
Ad Dollars/Rating Point	Increase/Decrease by	-10%	-10%	-10%	-10%	-10%	-10%
Affiliate Fee/Sub	Increase/Decrease by	599%	293%	145%	57%	145%	57%
Programming Expenses	Increase/Decrease by	0%	-15%	0%	-15%	0%	-15%
Marketing Expenses	% of Revenues	25%	25%	20%	20%	20%	20%
OLDER-SKEWING		Response A	Response B	Response A	Response B	Response A	Response B
Segment take rate	% of baseline distribution	15%	15%	15%	15%	27%	27%
Retained audience	% of TVHH delivery	60%	60%	60%	60%	60%	60%
Ad Dollars/Rating Point	Increase/Decrease by	-10%	-10%	-10%	-10%	-10%	-10%
Affiliate Fee/Sub	Increase/Decrease by	977%	556%	149%	71%	125%	55%
Programming Expenses	Increase/Decrease by	0%	-15%	0%	-15%	0%	-15%
Marketing Expenses	% of Revenues	25%	25%	20%	20%	20%	20%
NEWS		Response A	Response B	Response A	Response B	Response A	Response B
Segment take rate	% of baseline distribution	20%	20%	20%	20%	0%	0%
Retained audience	% of TVHH delivery	80%	80%	80%	80%	80%	80%
Ad Dollars/Rating Point	Increase/Decrease by	-10%	-10%	-10%	-10%	-10%	-10%
Affiliate Fee/Sub	Increase/Decrease by	718%	402%	149%	67%	199%	101%
Programming Expenses	Increase/Decrease by	0%	-15%	0%	-15%	0%	-15%
Marketing Expenses	% of Revenues	25%	25%	20%	20%	20%	20%
EMERGING MASS		Response A	Response B	Response A	Response B	Response A	Response B
Segment take rate	% of baseline distribution	10%	10%	10%	10%	24%	24%
Retained audience	% of TVHH delivery	40%	40%	40%	40%	40%	40%
Ad Dollars/Rating Point	Increase/Decrease by	-20%	-20%	-20%	-20%	-20%	-20%
Affiliate Fee/Sub	Increase/Decrease by	2392%	977%	282%	96%	239%	74%
Programming Expenses	Increase/Decrease by	0%	-93%	0%	-57%	0%	-57%
Marketing Expenses	% of Revenues	30%	30%	25%	25%	25%	25%
EMERGING NICHE		Response A	Response B	Response A	Response B	Response A	Response B
Segment take rate	% of baseline distribution	10%	10%	10%	10%	14%	14%
Retained audience	% of TVHH delivery	50%	50%	50%	50%	50%	50%
Ad Dollars/Rating Point	Increase/Decrease by	-20%	-20%	-20%	-20%	-20%	-20%
Affiliate Fee/Sub	Increase/Decrease by	2173%	1015%	260%	103%	247%	96%
Programming Expenses	Increase/Decrease by	0%	-79%	0%	-55%	0%	-55%
Marketing Expenses	% of Revenues	30%	30%	25%	25%	25%	25%

Source: Primary interviews, Booz Allen analysis

2. Impact on Network Segments

GENERAL ENTERTAINMENT / SPORTS OUTPUT									
INPUTS		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
Avg Distribution	Year End Subs (MM)	86.5	26.0	26.0	56.2	56.2	61.4	61.4	
Avg Audience Delivered	Avg 24-hr TV HH (000)	842	695	695	752	752	752	752	
Avg Rating	Among All TV HH	0.78	0.64	0.64	0.69	0.69	0.69	0.69	
Avg License Fee / Sub	\$/Sub/Month	\$0.67	\$3.49	\$2.16	\$1.47	\$1.00	\$1.35	\$0.91	
Ad Dollars/Rating Point	\$(MM)	\$653	\$588	\$588	\$588	\$588	\$588	\$588	
Programming Expenses	% of Revenues	54%	54%	51%	54%	50%	54%	50%	
Marketing Expenses	% of Baseline Revenues	2%	25%	25%	20%	20%	20%	20%	

OPERATING STATEMENT		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
REVENUES									
Advertising Revenues	Annual (\$MM)	\$507.43	\$376.76	\$376.76	\$408.16	\$408.16	\$408.16	\$408.16	
Affiliate Revenues	Annual (\$MM)	\$674.10	\$1,087.95	\$674.10	\$994.99	\$674.10	\$994.99	\$674.10	
Other Revenues	Annual (\$MM)	\$49.73	\$49.73	\$49.73	\$49.73	\$49.73	\$49.73	\$49.73	
Total Revenues	Annual (\$MM)	\$1,231.25	\$1,514.44	\$1,100.59	\$1,452.88	\$1,131.98	\$1,452.88	\$1,131.98	
COSTS									
Programming Expenses	Annual (\$MM)	\$667.41	\$667.41	\$560.63	\$667.41	\$567.30	\$667.41	\$567.30	
Marketing Expenses	Annual (\$MM)	\$24.63	\$307.81	\$307.81	\$246.25	\$246.25	\$246.25	\$246.25	
Other Expenses	Annual (\$MM)	\$120.96	\$120.96	\$120.96	\$120.96	\$120.96	\$120.96	\$120.96	
Total Non-Programming Expenses	Annual (\$MM)	\$145.59	\$428.78	\$428.78	\$367.21	\$367.21	\$367.21	\$367.21	
Total Expenses	Annual (\$MM)	\$813.00	\$1,096.19	\$989.40	\$1,034.63	\$934.51	\$1,034.63	\$934.51	
Cash Flow (EBITDA)									
Cash Flow (EBITDA)	Annual (\$MM)	\$418.25	\$418.25	\$111.19	\$418.25	\$197.47	\$418.25	\$197.47	
Cash Flow Margin	Annual (\$MM)	34.0%	27.6%	10.1%	28.8%	17.4%	28.8%	17.4%	

METRICS		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
Advertising Revenue Per Sub			\$5.87	\$14.52	\$14.52	\$7.26	\$7.26	\$6.65	\$6.65
Advertising Revenue as % of Total Revenue			41%	25%	34%	28%	36%	28%	36%
License Fee Revenue as % of Total Revenue			55%	72%	61%	68%	60%	68%	60%
Programming Expenses as % of Revenue			54%	44%	51%	46%	50%	46%	50%
Programming Expenses Per Sub			\$7.72	\$25.72	\$21.60	\$11.87	\$10.09	\$10.87	\$9.24

Source: Booz Allen analysis

YOUNGER-SKEWING OUTPUT									
INPUTS		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
Avg Distribution	Year End Subs (MM)	84.1	21.0	21.0	52.6	52.6	52.6	52.6	
Avg Audience Delivered	Avg 24-hr TV HH (000)	436	312	312	367	367	367	367	
Avg Rating	Among All TV HH	0.40	0.29	0.29	0.34	0.34	0.34	0.34	
Avg License Fee / Sub	\$/Sub/Month	\$0.25	\$1.71	\$0.96	\$0.60	\$0.39	\$0.60	\$0.39	
Ad Dollars/Rating Point	\$(MM)	\$617	\$555	\$555	\$555	\$555	\$555	\$555	
Programming Expenses	% of Revenues	32%	32%	33%	32%	31%	32%	31%	
Marketing Expenses	% of Baseline Revenues	5%	25%	25%	20%	20%	20%	20%	
OPERATING STATEMENT		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
REVENUES									
Advertising Revenues	Annual (\$MM)	\$248.10	\$159.65	\$159.65	\$187.84	\$187.84	\$187.84	\$187.84	
Affiliate Revenues	Annual (\$MM)	\$242.96	\$431.97	\$242.96	\$378.64	\$242.96	\$378.64	\$242.96	
Other Revenues	Annual (\$MM)	\$11.74	\$11.74	\$11.74	\$11.74	\$11.74	\$11.74	\$11.74	
Total Revenues	Annual (\$MM)	\$502.80	\$603.36	\$414.35	\$578.22	\$442.54	\$578.22	\$442.54	
COSTS									
Programming Expenses	Annual (\$MM)	\$158.85	\$158.85	\$135.02	\$158.85	\$135.02	\$158.85	\$135.02	
Marketing Expenses	Annual (\$MM)	\$25.14	\$125.70	\$125.70	\$100.56	\$100.56	\$100.56	\$100.56	
Other Expenses	Annual (\$MM)	\$74.55	\$74.55	\$74.55	\$74.55	\$74.55	\$74.55	\$74.55	
Total Non-Programming Expenses	Annual (\$MM)	\$99.69	\$200.25	\$200.25	\$175.11	\$175.11	\$175.11	\$175.11	
Total Expenses	Annual (\$MM)	\$258.54	\$359.10	\$335.27	\$333.96	\$310.13	\$333.96	\$310.13	
Cash Flow (EBITDA)	Annual (\$MM)	\$244.26	\$244.26	\$79.08	\$244.26	\$132.41	\$244.26	\$132.41	
Cash Flow Margin	Annual (\$MM)	48.6%	40.5%	19.1%	42.2%	29.9%	42.2%	29.9%	
METRICS		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
Advertising Revenue Per Sub		\$2.95	\$7.59	\$7.59	\$3.57	\$3.57	\$3.57	\$3.57	
Advertising Revenue as % of Total Revenue		49%	26%	39%	32%	42%	32%	42%	
License Fee Revenue as % of Total Revenue		48%	72%	59%	65%	55%	65%	55%	
Programming Expenses as % of Revenue		32%	26%	33%	27%	31%	27%	31%	
Programming Expenses Per Sub		\$1.89	\$7.55	\$6.42	\$3.02	\$2.57	\$3.02	\$2.57	

Source: Booz Allen analysis

Older-Skewing Output									
Inputs		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
Avg Distribution	Year End Subs (MM)	80.2	12.0	12.0	46.1	46.1	51.0	51.0	
Avg Audience Delivered	Avg 24-hr TV HH (000)	374	247	247	305	305	305	305	
Avg Rating	Among All TV HH	0.35	0.23	0.23	0.28	0.28	0.28	0.28	
Avg License Fee / Sub	\$/Sub/Month	\$0.18	\$1.94	\$1.18	\$0.45	\$0.31	\$0.41	\$0.28	
Ad Dollars/Rating Point	\$(MM)	\$353	\$318	\$318	\$318	\$318	\$318	\$318	
Programming Expenses	% of Revenues	37%	37%	38%	37%	36%	37%	36%	
Marketing Expenses	% of Baseline Revenues	5%	25%	25%	20%	20%	20%	20%	

Operating Statement		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
Revenues									
Advertising Revenues	Annual (\$MM)	\$121.88	\$72.40	\$72.40	\$89.40	\$89.40	\$89.40	\$89.40	
Affiliate Revenues	Annual (\$MM)	\$170.44	\$279.95	\$170.44	\$247.94	\$170.44	\$247.94	\$170.44	
Other Revenues	Annual (\$MM)	\$7.80	\$7.80	\$7.80	\$7.80	\$7.80	\$7.80	\$7.80	
Total Revenues	Annual (\$MM)	\$300.12	\$360.14	\$250.64	\$345.14	\$267.64	\$345.14	\$267.64	
Costs									
Programming Expenses	Annual (\$MM)	\$112.10	\$112.10	\$95.29	\$112.10	\$95.29	\$112.10	\$95.29	
Marketing Expenses	Annual (\$MM)	\$15.01	\$75.03	\$75.03	\$60.02	\$60.02	\$60.02	\$60.02	
Other Expenses	Annual (\$MM)	\$46.27	\$46.27	\$46.27	\$46.27	\$46.27	\$46.27	\$46.27	
Total Non-Programming Expenses	Annual (\$MM)	\$61.28	\$121.30	\$121.30	\$106.30	\$106.30	\$106.30	\$106.30	
Total Expenses	Annual (\$MM)	\$173.38	\$233.40	\$216.59	\$218.40	\$201.58	\$218.40	\$201.58	
Cash Flow (EBITDA)	Annual (\$MM)	\$126.74	\$126.74	\$34.05	\$126.74	\$66.06	\$126.74	\$66.06	
Cash Flow Margin	Annual (\$MM)	42.2%	35.2%	13.6%	36.7%	24.7%	36.7%	24.7%	

Metrics		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
Advertising Revenue Per Sub			\$1.52	\$6.02	\$6.02	\$1.94	\$1.94	\$1.75	\$1.75
Advertising Revenue as % of Total Revenue			41%	20%	29%	26%	33%	26%	33%
License Fee Revenue as % of Total Revenue			57%	78%	68%	72%	64%	72%	64%
Programming Expenses as % of Revenue			37%	31%	38%	32%	36%	32%	36%
Programming Expenses Per Sub			\$1.40	\$9.31	\$7.92	\$2.43	\$2.07	\$2.20	\$1.87

Source: Booz Allen analysis

NEWS OUTPUT								
INPUTS	Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
			Response A	Response B	Response A	Response B	Response A	Response B
Avg Distribution	Year End Subs (MM)	85.6	17.1	17.1	51.4	51.4	42.8	42.8
Avg Audience Delivered	Avg 24-hr TV HH (000)	423	372	372	389	389	389	389
Avg Rating	Among All TV HH	0.39	0.34	0.34	0.36	0.36	0.36	0.36
Avg License Fee / Sub	\$/Sub/Month	\$0.20	\$1.67	\$1.02	\$0.51	\$0.34	\$0.61	\$0.41
Ad Dollars/Rating Point	\$ (MM)	\$535	\$482	\$482	\$482	\$482	\$482	\$482
Programming Expenses	% of Revenues	34%	34%	32%	34%	32%	34%	32%
Marketing Expenses	% of Baseline Revenues	5%	25%	25%	20%	20%	20%	20%

OPERATING STATEMENT	Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
			Response A	Response B	Response A	Response B	Response A	Response B
REVENUES								
Advertising Revenues	Annual (\$MM)	\$208.64	\$165.24	\$165.24	\$172.75	\$172.75	\$172.75	\$172.75
Affiliate Revenues	Annual (\$MM)	\$210.46	\$342.84	\$210.46	\$313.08	\$210.46	\$313.08	\$210.46
Other Revenues	Annual (\$MM)	\$25.82	\$25.82	\$25.82	\$25.82	\$25.82	\$25.82	\$25.82
Total Revenues	Annual (\$MM)	\$444.92	\$533.90	\$401.52	\$511.66	\$409.03	\$511.66	\$409.03
COSTS								
Programming Expenses	Annual (\$MM)	\$152.78	\$152.78	\$129.86	\$152.78	\$129.86	\$152.78	\$129.86
Marketing Expenses	Annual (\$MM)	\$22.25	\$111.23	\$111.23	\$88.98	\$88.98	\$88.98	\$88.98
Other Expenses	Annual (\$MM)	\$93.69	\$93.69	\$93.69	\$93.69	\$93.69	\$93.69	\$93.69
Total Non-Programming Expenses	Annual (\$MM)	\$115.94	\$204.92	\$204.92	\$182.68	\$182.68	\$182.68	\$182.68
Total Expenses	Annual (\$MM)	\$268.72	\$357.70	\$334.79	\$335.46	\$312.54	\$335.46	\$312.54
Cash Flow (EBITDA)	Annual (\$MM)	\$176.20	\$176.20	\$66.74	\$176.20	\$96.49	\$176.20	\$96.49
Cash Flow Margin	Annual (\$MM)	39.6%	33.0%	16.6%	34.4%	23.6%	34.4%	23.6%
METRICS	Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
			Response A	Response B	Response A	Response B	Response A	Response B
Advertising Revenue Per Sub		\$2.44	\$9.65	\$9.65	\$3.36	\$3.36	\$4.03	\$4.03
Advertising Revenue as % of Total Revenue		47%	31%	41%	34%	42%	34%	42%
License Fee Revenue as % of Total Revenue		47%	64%	52%	61%	51%	61%	51%
Programming Expenses as % of Revenue		34%	29%	32%	30%	32%	30%	32%
Programming Expenses Per Sub		\$1.78	\$8.92	\$7.58	\$2.97	\$2.53	\$3.57	\$3.03

Source: Booz Allen analysis

EMERGING MASS OUTPUT								
INPUTS	Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
			Response A	Response B	Response A	Response B	Response A	Response B
Avg Distribution	Year End Subs (MM)	63.8	6.4	6.4	35.1	35.1	39.6	39.6
Avg Audience Delivered	Avg 24-hr TV HH (000)	254	112	112	180	180	180	180
Avg Rating	Among All TV HH	0.23	0.10	0.10	0.17	0.17	0.17	0.17
Avg License Fee / Sub	\$/Sub/Month	\$0.08	\$2.06	\$0.89	\$0.32	\$0.16	\$0.28	\$0.14
Ad Dollars/Rating Point	\$(MM)	\$343	\$274	\$274	\$274	\$274	\$274	\$274
Programming Expenses	% of Revenues	42%	42%	4%	42%	24%	42%	24%
Marketing Expenses	% of Baseline Revenues	5%	30%	30%	25%	25%	25%	25%

OPERATING STATEMENT		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
REVENUES									
Advertising Revenues	Annual (\$MM)	\$80.26	\$28.25	\$28.25	\$45.59	\$45.59	\$45.59	\$45.59	
Affiliate Revenues	Annual (\$MM)	\$68.26	\$157.92	\$68.26	\$133.05	\$68.26	\$133.05	\$68.26	
Other Revenues	Annual (\$MM)	\$2.04	\$2.04	\$2.04	\$2.04	\$2.04	\$2.04	\$2.04	
Total Revenues	Annual (\$MM)	\$150.56	\$188.20	\$98.55	\$180.68	\$115.89	\$180.68	\$115.89	
COSTS									
Programming Expenses	Annual (\$MM)	\$63.85	\$63.85	\$4.30	\$63.85	\$27.43	\$63.85	\$27.43	
Marketing Expenses	Annual (\$MM)	\$7.53	\$45.17	\$45.17	\$37.64	\$37.64	\$37.64	\$37.64	
Other Expenses	Annual (\$MM)	\$39.23	\$39.23	\$39.23	\$39.23	\$39.23	\$39.23	\$39.23	
Total Non-Programming Expenses	Annual (\$MM)	\$46.75	\$84.40	\$84.40	\$76.87	\$76.87	\$76.87	\$76.87	
Total Expenses	Annual (\$MM)	\$110.61	\$148.25	\$88.70	\$140.72	\$104.30	\$140.72	\$104.30	
Cash Flow (EBITDA)	Annual (\$MM)	\$39.95	\$39.95	\$9.86	\$39.95	\$11.59	\$39.95	\$11.59	
Cash Flow Margin	Annual (\$MM)	26.5%	21.2%	10.0%	22.1%	10.0%	22.1%	10.0%	

METRICS	Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
			Response A	Response B	Response A	Response B	Response A	Response B
Advertising Revenue Per Sub		\$1.26	\$4.43	\$4.43	\$1.30	\$1.30	\$1.15	\$1.15
Advertising Revenue as % of Total Revenue		53%	15%	29%	25%	39%	25%	39%
License Fee Revenue as % of Total Revenue		45%	84%	69%	74%	59%	74%	59%
Programming Expenses as % of Revenue		42%	34%	4%	35%	24%	35%	24%
Programming Expenses Per Sub		\$1.00	\$10.00	\$0.67	\$1.82	\$0.78	\$1.61	\$0.69

Source: Booz Allen analysis

EMERGING NICHE OUTPUT									
INPUTS		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
Avg Distribution	Year End Subs (MM)	34.2	3.4	3.4	18.8	18.8	19.5	19.5	
Avg Audience Delivered	Avg 24-hr TV HH (000)	311	171	171	237	237	237	237	
Avg Rating	Among All TV HH	0.29	0.16	0.16	0.22	0.22	0.22	0.22	
Avg License Fee / Sub	\$/Sub/Month	\$0.09	\$1.97	\$0.96	\$0.31	\$0.18	\$0.30	\$0.17	
Ad Dollars/Rating Point	\$(MM)	\$131	\$105	\$105	\$105	\$105	\$105	\$105	
Programming Expenses	% of Revenues	52%	52%	15%	52%	29%	52%	29%	
Marketing Expenses	% of Baseline Revenues	5%	30%	30%	25%	25%	25%	25%	

OPERATING STATEMENT		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
REVENUES									
Advertising Revenues	Annual (\$MM)	\$37.66	\$16.57	\$16.57	\$22.97	\$22.97	\$22.97	\$22.97	
Affiliate Revenues	Annual (\$MM)	\$39.55	\$80.67	\$39.55	\$70.26	\$39.55	\$70.26	\$39.55	
Other Revenues	Annual (\$MM)	\$2.91	\$2.91	\$2.91	\$2.91	\$2.91	\$2.91	\$2.91	
Total Revenues	Annual (\$MM)	\$80.12	\$100.15	\$59.03	\$96.14	\$65.43	\$96.14	\$65.43	
COSTS									
Programming Expenses	Annual (\$MM)	\$41.40	\$41.40	\$8.89	\$41.40	\$18.66	\$41.40	\$18.66	
Marketing Expenses	Annual (\$MM)	\$4.01	\$24.04	\$24.04	\$20.03	\$20.03	\$20.03	\$20.03	
Other Expenses	Annual (\$MM)	\$20.20	\$20.20	\$20.20	\$20.20	\$20.20	\$20.20	\$20.20	
Total Non-Programming Expenses	Annual (\$MM)	\$24.20	\$44.23	\$44.23	\$40.23	\$40.23	\$40.23	\$40.23	
Total Expenses	Annual (\$MM)	\$65.60	\$85.63	\$53.13	\$81.63	\$58.89	\$81.63	\$58.89	
Cash Flow (EBITDA)	Annual (\$MM)	\$14.52	\$14.52	\$5.90	\$14.52	\$6.54	\$14.52	\$6.54	
Cash Flow Margin	Annual (\$MM)	18.1%	14.5%	10.0%	15.1%	10.0%	15.1%	10.0%	

METRICS		Units	Baseline	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
Advertising Revenue Per Sub			\$1.10	\$4.85	\$4.85	\$1.22	\$1.22	\$1.18	\$1.18
Advertising Revenue as % of Total Revenue			47%	17%	28%	24%	35%	24%	35%
License Fee Revenue as % of Total Revenue			49%	81%	67%	73%	60%	73%	60%
Programming Expenses as % of Revenue			52%	41%	15%	43%	29%	43%	29%
Programming Expenses Per Sub			\$1.21	\$12.11	\$2.60	\$2.20	\$0.99	\$2.12	\$0.96

Source: Booz Allen analysis

3. Impact on Average Network

AVERAGE NETWORK			PERCENT CHANGE FROM BASELINE					
INPUTS	Units	Baseline (average)	Scenario 1		Scenario 2		Scenario 3	
			Response A	Response B	Response A	Response B	Response A	Response B
Avg Distribution	Year End Subs (MM)	76.43	-76%	-76%	-38%	-38%	-35%	-35%
Avg Audience Delivered	Avg 24-hr TV HH (000)	577	-23%	-23%	-13%	-13%	-13%	-13%
Avg Rating	Among All TV HH	0.533	-23%	-23%	-13%	-13%	-13%	-13%
Avg License Fee / Sub	\$/Sub/Month	\$0.39	564%	290%	134%	55%	120%	46%
Ad Dollars/Rating Point	\$(MM)	\$518	-11%	-11%	-11%	-11%	-11%	-11%
Programming Expenses	% of Revenues	46%	0%	-21%	0%	-15%	0%	-15%
Marketing Expenses	% of Baseline Revenues	4%	608%	608%	472%	472%	472%	472%

OPERATING STATEMENT		Units	Baseline (average)	Scenario 1		Scenario 2		Scenario 3	
				Response A	Response B	Response A	Response B	Response A	Response B
REVENUES									
Advertising Revenues	Annual (\$MM)	\$307.09	-29%	-29%	-21%	-21%	-21%	-21%	
Affiliate Revenues	Annual (\$MM)	\$382.08	65%	0%	50%	0%	50%	0%	
Other Revenues	Annual (\$MM)	\$27.56	0%	0%	0%	0%	0%	0%	
Total Revenues	Annual (\$MM)	\$716.72	22%	-12%	17%	-9%	17%	-9%	
COSTS									
Programming Expenses	Annual (\$MM)	\$354.41	0%	-18%	0%	-16%	0%	-16%	
Marketing Expenses	Annual (\$MM)	\$19.64	818%	818%	636%	636%	636%	636%	
Other Expenses	Annual (\$MM)	\$84.55	0%	0%	0%	0%	0%	0%	
Total Non-Programming Expenses	Annual (\$MM)	\$104.19	154%	154%	120%	120%	120%	120%	
Total Expenses	Annual (\$MM)	\$458.59	35%	21%	27%	15%	27%	15%	
Cash Flow (EBITDA)	Annual (\$MM)	\$258.13	0%	-72%	0%	-51%	0%	-51%	
Cash Flow Margin	Annual (\$MM)	34.9%	-18%	-64%	-14%	-45%	-14%	-45%	

METRICS	Units	Baseline (average)	Scenario 1		Scenario 2		Scenario 3	
			Response A	Response B	Response A	Response B	Response A	Response B
Advertising Revenue Per Sub		\$3.69	174%	174%	23%	23%	17%	17%
Advertising Revenue as % of Total Revenue		45%	-48%	-24%	-37%	-16%	-37%	-16%
License Fee Revenue as % of Total Revenue		52%	43%	20%	33%	13%	33%	13%
Programming Expenses as % of Revenue		46%	-18%	-21%	-15%	-15%	-15%	-15%
Programming Expenses Per Sub		\$4.24	292%	191%	57%	29%	47%	21%

Source: Booz Allen analysis

4. Composite Operator Financial Statement
(Average MSO Based on Sample of Publicly Traded MSOs and Data Provided
by Sample of Additional MSOs of Varying Sizes)

Composite MSO 2003 (\$MM)	
OPERATING STATEMENT	
REVENUES	
Video revenues	\$4,681
Non-video revenues	\$669
Incremental set top box fees	N/A
Total revenues	\$5,350
COSTS	
Programming	\$1,366
Other Opex	\$2,066
Incremental cost of set top boxes	N/A
Incremental customer care	N/A
Total operating costs	\$3,432
Cashflow	\$1,918
Operating margin	36.5%
Depreciation	\$1,358
Depreciation/sub/month (\$)	\$17.12
Interest expense	\$770
Interest/sub/month (\$)	\$12.23
# of subscribers (MM)	7.0
Homes passed (MM)	13.9
Basic subscribers (MM)	6.5
Digital subscribers (MM)	1.8
Data customers (MM)	1.4

Source: Company financial reports and analyst coverage for 7 MSOs
representing in excess of 70% of cable subscribers, Booz Allen analysis

5. Cable Operator Variables

MSO COMPOSITE VARIABLES	ASSUMPTIONS					
	Scenario 1		Scenario 2		Scenario 3	
	Response A	Response B	Response A	Response B	Response A	Response B
# of cable subscribers (MM)	7.0	7.0	7.0	7.0	7.0	7.0
A la carte take rate	100%	100%	50%	50%	50%	50%
Digital vs Analog						
Number of TV sets per household	3.0	3.0	3.0	3.0	3.0	3.0
# digital TV sets per digital household	1.7	1.7	1.7	1.7	1.7	1.7
% of analog households	70%	70%	70%	70%	70%	70%
% of digital households	30%	30%	30%	30%	30%	30%
Cost of set top box (rental/month)	\$4	\$4	\$4	\$4	\$4	\$4
One time cost of set top box	\$185	\$185	\$185	\$185	\$185	\$185
Incremental set top fees						
Local advertising	-23%	-23%	-13%	-13%	-13%	-13%
Non-video revenues						
Programming costs	65%	0%	50%	0%	50%	0%
Customer care	77%	77%	62%	62%	62%	62%
Other (opex)						
# of channels in tier	N/A	N/A	48	48	48	48
# of channels in a la carte	11	11	11	11	15	15
Opportunity cost of spectrum	-\$3.75	-\$3.75	\$1.20	\$1.20	\$0.88	\$0.88

Source: Primary interviews, Booz Allen analysis

6. Impact on Average Cable Operator

Key Inputs		Basecase	Scenario 1		Scenario 2		Scenario 3	
			Response A	Response B	Response A	Response B	Response A	Response B
Subscribers (MM)		7.0	7.0	7.0	7.0	7.0	7.0	7.0
Number of TV sets per household			3.0	3.0	3.0	3.0	3.0	3.0
Number of digital TV sets per digital household			1.7	1.7	1.7	1.7	1.7	1.7
% of analog households			70%	70%	70%	70%	70%	70%
% of digital households			30%	30%	30%	30%	30%	30%
Increases in Programming expenses			65%	0%	50%	0%	50%	0%
Increase in Customer Care Expenses			77%	77%	62%	62%	62%	62%
Set top box costs								
Analog subs (MM)			4.9	4.9	4.9	4.9	4.9	4.9
# TV sets in analog homes (MM)			14.8	14.8	14.8	14.8	14.8	14.8
Digital subs (MM)			2.1	2.1	2.1	2.1	2.1	2.1
# TV Sets Without Set-Tops in digital homes (MM)			2.7	2.7	2.7	2.7	2.7	2.7
# of Digital set top boxes to be upgraded (MM)			17.5	17.5	8.8	8.8	8.8	8.8
Cost of set top box/month			\$4	\$4	\$4	\$4	\$4	\$4
One time cost of set top box			\$185	\$185	\$185	\$185	\$185	\$185
Total set top box investment required for composite MSO (\$MM)			\$3,243	\$3,243	\$1,622	\$1,622	\$1,622	\$1,622
Total set top box investment required for all cable households (\$MM)			\$33,938	\$33,938	\$16,969	\$16,969	\$16,969	\$16,969
OPERATING STATEMENT (\$MM)								
REVENUES								
Video revenues		\$4,681	\$5,879	\$4,992	\$5,585	\$4,907	\$5,585	\$4,907
Local advertising		\$440	\$340	\$340	\$382	\$382	\$382	\$382
Other non-video revenues		\$229	\$229	\$229	\$229	\$229	\$229	\$229
Total non-video revenues		\$669	\$569	\$569	\$611	\$611	\$611	\$611
Incremental set top box fees		N/A	\$841	\$841	\$421	\$421	\$421	\$421
Total revenues		\$5,350	\$7,290	\$6,402	\$6,617	\$5,939	\$6,617	\$5,939
COSTS								
Programming		\$1,366	\$2,253	\$1,366	\$2,043	\$1,366	\$2,043	\$1,366
Customer care		\$275	\$486	\$486	\$444	\$444	\$444	\$444
Other Opex		\$1,791	\$1,791	\$1,791	\$1,791	\$1,791	\$1,791	\$1,791
Total Other Opex		\$2,066	\$2,277	\$2,277	\$2,235	\$2,235	\$2,235	\$2,235
Incremental cost of set top boxes		N/A	\$841	\$841	\$421	\$421	\$421	\$421
Total operating costs		\$3,432	\$5,372	\$4,484	\$4,699	\$4,021	\$4,699	\$4,021
EBITDA		\$1,918	\$1,918	\$1,918	\$1,918	\$1,918	\$1,918	\$1,918
Operating margin		36%	26.3%	30.0%	29.0%	32.3%	29.0%	32.3%
ANALYSIS PER SUBSCRIBER								
Video revenues		\$55.41	\$69.59	\$59.09	\$66.11	\$58.09	\$66.11	\$58.09
Local advertising		\$5.20	\$4.02	\$4.02	\$4.52	\$4.52	\$4.52	\$4.52
Other non-video revenues		\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71
Total non-video revenues		\$7.91	\$6.74	\$6.74	\$7.23	\$7.23	\$7.23	\$7.23
Incremental set top box fees		N/A	\$9.96	\$9.96	\$4.98	\$4.98	\$4.98	\$4.98
ARPU (avg revenue per sub per month)		\$63.32	\$86.29	\$75.78	\$78.32	\$70.30	\$78.32	\$70.30
Costs Per Subscriber								
Programming		\$16.17	\$26.67	\$16.17	\$24.19	\$16.17	\$24.19	\$16.17
Customer care		\$3.25	\$5.75	\$5.75	\$5.25	\$5.25	\$5.25	\$5.25
Other Opex		\$21.20	\$21.20	\$21.20	\$21.20	\$21.20	\$21.20	\$21.20
Total other opex		\$24.45	\$26.95	\$26.95	\$26.45	\$26.45	\$26.45	\$26.45
Incremental cost of set top boxes		N/A	\$9.96	\$9.96	\$4.98	\$4.98	\$4.98	\$4.98
Operating Costs Per Sub (per month)		\$40.62	\$63.58	\$53.08	\$55.62	\$47.60	\$55.62	\$47.60
EBITDA/sub		\$22.70	\$22.70	\$22.70	\$22.70	\$22.70	\$22.70	\$22.70

Source: Booz Allen analysis

7. Impact on Consumer Bill

IMPACT ON CONSUMER BILL	Scenario 1			Scenario 2		Scenario 3	
	Basecase	Response A	Response B	Response A	Response B	Response A	Response B
Tiered customers							
Programming expenses		N/A	N/A	\$6.50	\$0.00	\$6.11	\$0.00
Customer care		N/A	N/A	\$2.00	\$2.00	\$2.00	\$2.00
Total		N/A	N/A	\$8.50	\$2.00	\$8.11	\$2.00
A la carte customer							
Programming expenses		\$10.51	\$0.00	\$1.52	\$0.00	\$1.91	\$0.00
Set top box costs		\$9.96	\$9.96	\$9.96	\$9.96	\$9.96	\$9.96
Customer care		\$2.50	\$2.50	\$2.00	\$2.00	\$2.00	\$2.00
Total		\$22.97	\$12.46	\$13.48	\$11.96	\$13.87	\$11.96
Average Weighted ARPU	\$63.32						
Tiered ARPU		N/A	N/A	\$71.82	\$65.32	\$71.44	\$65.32
A la carte ARPU		\$86.29	\$75.78	\$76.81	\$75.28	\$77.19	\$75.28
Opportunity cost of spectrum		-\$3.75	-\$3.75	\$1.20	\$1.20	\$0.88	\$0.88
Increase due to opportunity cost only		-5.9%	-5.9%	1.9%	1.9%	1.4%	1.4%
A LA CARTE: Breakdown of source for bill increase							
Programming		16.6%	0.0%	2.4%	0.0%	3.0%	0.0%
Set top Box		15.7%	15.7%	15.7%	15.7%	15.7%	15.7%
Customer Care		3.9%	3.9%	3.2%	3.2%	3.2%	3.2%
Subtotal		36.3%	19.7%	21.3%	18.9%	21.9%	18.9%
Increase due to opportunity cost		-5.9%	-5.9%	1.9%	1.9%	1.4%	1.4%
Total a la carte increase		30.3%	13.8%	23.2%	20.8%	23.3%	20.3%
TIERED: Breakdown of source for bill increase							
Programming		N/A	N/A	10.3%	0.0%	9.7%	0.0%
Customer Care		N/A	N/A	3.2%	3.2%	3.2%	3.2%
Set top Box		N/A	N/A	0.0%	0.0%	0.0%	0.0%
Subtotal		N/A	N/A	13.4%	3.2%	12.8%	3.2%
Increase due to opportunity cost		N/A	N/A	1.9%	1.9%	1.4%	1.4%
Total tiered increase		N/A	N/A	15.3%	5.1%	14.2%	4.5%

Source: Booz Allen analysis

8. Breakeven Number of Channels under a La Carte Before Consumer Bill Increases

Current video ARPU	\$55.00
Premium households MM	31
Cable households MM	74
Premium ARPU for premium HH	\$16.00
PPV and VOD Revenue per sub	\$1.50
Boxes per digital sub	1.7
TVs per home	3
Rental fee per box	\$4.00

Increase in consumer bill	Scenario 1		Scenario 2	
	Response A	Response B	Response A	Response B
Total increase in consumer bill	30.34%	13.76%	23.19%	20.78%
Minus set top box costs	15.73%	15.73%	15.73%	15.73%
Applicable bill increase	14.61%	-1.97%	7.46%	5.05%

Average home

\$	Scenario 1		Scenario 2	
	Response A	Response B	Response A	Response B
Video ARPU	\$63.04	\$53.91	\$59.10	\$57.78
Set top box rental fee	\$2.80	\$2.80	\$2.80	\$2.80
Premium ARPU	\$6.70	\$6.70	\$6.70	\$6.70
PPV & VOD	\$1.50	\$1.50	\$1.50	\$1.50
Subtotal	\$52.04	\$42.91	\$48.10	\$46.78
# of channels in tier	11.0	11.0	11.0	11.0
Price per channel \$	\$4.73	\$3.90	\$4.37	\$4.25

Broadcast basic cost	\$15.00	\$15.00	\$15.00	\$15.00
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Digital home

Additional set top box costs	\$5.20	\$5.20	\$5.20	\$5.20
Cost before cable nets	\$20.20	\$20.20	\$20.20	\$20.20
Breakeven number channels	7.4	8.9	8.0	8.2

Analog home

Additional set top box costs	\$12.00	\$12.00	\$12.00	\$12.00
Cost before cable nets	\$27.00	\$27.00	\$27.00	\$27.00
Breakeven number channels	5.9	7.2	6.4	6.6

Source: Company financial reports and analyst coverage, primary interviews, FCC, GAO, Booz Allen analysis

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Booz Allen Hamilton has been at the forefront of management consulting for businesses and governments for 90 years. Booz Allen, a global strategy and technology consulting firm, works with clients to deliver results that endure.

With more than 15,000 employees on six continents, the firm generates annual revenues of \$2.7 billion. Booz Allen provides services in strategy, organization, operations, systems, and technology to the world's leading corporations, government and other public agencies, emerging growth companies, and institutions.

Booz Allen has been recognized as a consultant and employer of choice. In a 2003 independent study by Kennedy Information, Booz Allen was rated the industry leader in performance and favorable client perceptions among general management consulting firms. Additionally, for the past two years, *Working Mother* has ranked the firm among the top 10 in its “100 Best Companies for Working Mothers” list.

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The global Media and Entertainment practice at Booz Allen has worked alongside the senior management of many of the leading media and entertainment companies to design strategies and help implement change. Booz Allen’s Media and Entertainment practice has deep experience across the major industry segments, including:

• Television programming, networks, and distribution • Local media • Motion pictures and home video • Music • Newspapers, magazines and books • Radio and outdoor • Sports • Direct marketing and advertising	• Broadband and interactive services • Business information • Entertainment retail • Backbone infrastructure providers • Consumer electronics • Wireless carriers • Video games • Home computing and networking
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CVs of Study Team

The Booz Allen team was led by John Frelinghuysen, a Vice President in the Firm's Media and Entertainment Practice, and by Matthew Egol, a Principal in the Media and Entertainment Practice. This senior team was supported by a Senior Associate and three Associates. In addition, two of the Firm's statisticians supported the team for specific analyses throughout the effort.

The following pages include brief CVs for John Frelinghuysen and Matthew Egol.

John Frelinghuysen

Mr. Frelinghuysen is a Vice President in Booz Allen Hamilton's Media and Entertainment Practice, based in New York. He specializes in strategy development and implementation for clients in the media and entertainment industries.

Mr. Frelinghuysen has experience leading engagements across a broad range of media businesses, including television networks and program suppliers, feature films, business information, interactive services, sports, music, magazines and wireless carriers. Across these businesses, he works closely with senior managers to improve operating performance and strategic positioning in such areas as growth strategy, organization design, new product development, marketing, pricing, sales strategy, and operations. Example engagements include:

- Led development of five-year growth strategy for a major cable network group.
- Supported a leading entertainment content company in developing its corporate strategy, addressing priority markets and content, distribution strategy and acquisitions / alliances.
- Worked with one of the leading U.S. wireless companies in developing the strategy for 3G digital media, including relationships with content providers, consumer value proposition and offer packaging / pricing.
- Worked with a major business information provider in developing an integrated online subscription information offering, based on the integration of four previously separate business units.
- Worked with a leading content and technology company in planning the launch of its Electronic Program Guide (EPG), focusing on the strategy for maximizing the value of advertising inventory.

Mr. Frelinghuysen is a frequent speaker at industry conferences and has been quoted in major publications. In 2001, he was awarded Booz Allen's Professional Excellence Award. Mr. Frelinghuysen attended Princeton University, where he graduated with honors, and received his M.B.A. from Columbia Business School. At Columbia, he graduated as a member of the Beta Gamma Sigma honor society.

Matthew Egol

Mr. Egol is a Principal with Booz Allen Hamilton's Media and Entertainment Practice, based in the New York office. He specializes in addressing strategy, marketing and performance improvement issues for media and entertainment clients.

Mr. Egol has experience leading engagements across television, music, magazines and professional publishing businesses. Across these businesses, he works closely with senior managers in areas such as strategy, sales effectiveness, pricing, and organization. Engagements in the television industry include:

- Worked with a major cable network group on its five-year strategy
- Led development of an integrated marketing strategy for a leading cable network
- Supported a major cable network in developing its programming strategy
- Helped a major cable network group on the repositioning of one its networks
- Evaluated opportunities for accelerating earnings growth for a local TV station group through duopoly and clustering
- Developed childrens programming strategy for a leading European broadcaster
- Helped a DBS operator benchmark costs across satellite and cable
- Led global video strategy (wholesale) for a leading satellite company

Mr. Egol earned an M.B.A. with concentrations in Marketing and Management of Media from Columbia Business School, where he received the Abe Shuchman Memorial Award in Marketing and was a member of the Beta Gamma Sigma honor society . He graduated Magna Cum Laude, Phi Beta Kappa from Dartmouth College with a degree in economics.