BEYOND PUNISHING USERS: TIME FOR A LOW COST, INCENTIVES-DRIVEN PRICING & POLICY ADJUNCT IN MOBILE NETWORKS

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Policy solutions are set to play a major role in mobile's future. The many policy stories in VanillaPlus alone point to this trend. Another clear signal: billing/charging vendors are scrambling to deliver solutions: every one of them wants to be seen as a leader in the policy space. And firms like Tekelec and Amdocs have paid big sums to acquire pure policy players like Camiant and Bridgewater.

So what's behind this passion for policy?

Frankly, TRI feels the excitement is less about "passion" and more about operator fear and frustration. Policy is seen as a cure for a lot of industry pain. Indeed, mobile operators feel cornered by some key industry trends:

- Over-the-top (OTT) players with their web videos, iMessage, email, and VoIP services are hollowing out the core revenue streams of voice, SMS, and MMS.
- Pre-paid operators in developing countries struggle to create stickiness because rivals fiercely compete on the basis of price alone.
- Billing offers based on fancy rating schemes no longer work as they once did because competitors have the tools to build similar rate plans.
- Mobile broadband requires huge investments, but without a better way to guarantee QoS at peak hours, users grumble and operator profits get squeezed.

So there are plenty of issues out there driving the need for policy solutions.

Unfortunately, policy – so far – has not delivered the goods. Despite considerable industry interest and vendor M&A, the number of solid, customer-referenceable deployments of policy is still very low.

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So this lack of *real-world success* stories raises questions. If there were policy solutions out there you could point to that are delivering value, you can bet that more operators would have the confidence to invest.

Instead, the standards bodies are stuck explaining theory. The committees discuss PCRF but offer *little policy deployment guidance* on how to profitably deploy PCRF-based solutions in an actual mobile business.

Cost is another major obstacle to policy deployments. The costs are high because networks are not designed to monitor and bandwidth-tweak at a customer-specific level. If you're a pre-paid operator, updating the service logic in the main IN system is usually a multi-million Euro project, not to mention the costs of billing/charging integration.

And the final key obstacle we see is the *user experience*. It's challenging to implement policy in a way that doesn't annoy users or push them to competitors. And among the issues here are:

- How do you explain your throttling policy to the user?
- When you choose to cut users off or slow them down, will users feel it is being done unfairly?
- And how do you ensure services are restored reliably?

Bottom line, if policy is perceived as punishing users, then it could actually do more harm than good.

IS THE NETWORK-HEAVY POLICY PATH THE BEST WAY TO GO?

OK, we've raised a few issues that are holding back policy deployments:

- Lack of real-world success stories;
- Scarcity of business applications;
- High deployment cost; and,
- Questions about whether policy may harm the user experience.

And considering how long policy solutions have been promoted and talked about, these issues are not to be taken lightly.

Frankly we see parallels between policy and the hype surrounding IMS several years ago. IMS was sold as an essential mobile strategy that would enable things like the seamless handoff of a call from a wireline to wireless phone.

Even though IMS was heavily advertised and dozens of conference sessions were devoted to the topic, IMS never took off. And one of the key reasons it failed was that it required a massive network investment and had a questionable business ROI.

So is a network-heavy policy play another IMS?

Maybe not, but it's certainly time to raise a red flag. When asked to buy a high-tech/high-cost solution, your first reaction should be: *"Wait a second. Is this the best way to go? Or is there a low-tech, low cost alternative that will achieve the same objective?"*

And the best example of that is what Apple did. While mobile operators were mulling over IMS, Apple created a couple of killer devices that lifted mobile out of its doldrums.

In fact, former CEO Steve Jobs explained his technology philosophy in a 2006 article in Newsweek magazine. Referring to the design of the iPod, he said:

"Look at the design of a lot of consumer products — they're really complicated surfaces. We tried to make something much more holistic and simple. When you first start off trying to solve a problem, the first solutions you come up with are very complex, and most people stop there. But if you keep going, and live with the problem and peel more layers of the onion off, you can often times arrive at some very elegant and simple solutions."

A BROADER DEFINITION OF POLICY

The mission of policy is clearly in sync with where mobile operators want to go. It's all about delivering great customer satisfaction, network efficiency, and operator profitability -- at the same time.

And the good news is that operators have various tools at their disposal to deliver on policy's promise – a network-heavy approach is merely one of them.

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Looked at in its broadest sense, policy is pervasive across a telecom's business. It's implicit in the many rules an operator sets for itself, such as: where it builds network; how it prices products, what incentives it offers, and what reserved capacity to set aside for a VIP customer.

And a balanced approach is usually best because the various elements of policy depend on each other somewhat. For example:

- Build network capacity in the wrong places and you can't serve the customers you want to reach.
- Price your services too low and you'll run out of capacity.
- Offer too few incentives, and users won't change their behavior.
- Fail to reserve capacity for VIPs and those VIPs will churn to a competitor when they have urgent needs.

So the issue we have is not with policy itself, but relying on a limited set of complex, high cost policy strategies when an operator has an array of game-winning chess pieces it can employ - network build, shifting loads, pricing, incentives, and many others.

DYNAMIC PRICING: BORROWING FROM THE AIRLINE INDUSTRY

Fortunately, there's an alternative to the network-heavy policy approach. And the solution is something we experience every time we fly somewhere.

It's the mobile telecom equivalent of what the airline industry calls "yield management". It's using dynamic pricing to sell and distribute mobile services like the airlines sell seats on their airplanes. When there are lots of seats available (such as a month before the flight), you lower your price. When seats are scarce (such as the day of the flight), you raise prices.

The idea is to send real-time offers via SMS, Web or a small indicator on the screen to notify users about discounts they get on services as long as they use those services at off-peak times.

Say a subscriber usually calls his mother at the peak time of 11:00 AM when the rate is 15 cents a minute. Now if the cell is going to be congested at 11:00 AM, the operator sends a message at 8:00 AM (an off-peak time) saying, "If you call right now, you save 50%." And when the subscriber makes that call, it's charged 7.5 cents a minute.

Notice that two key objectives are achieved here: the customer calls his mother at a discounted price, and you, the operator, successfully shifted traffic to an off-peak period, ensuring that your premium customers get a high QoS service at 11:00 AM.

Now a little bit later on in this paper, we're going to walk you through an actual case study to explain the mechanics of how this is done, but first let's discuss the benefits of this approach. But I assure you that the solution satisfies the need for something low cost and easy to insert.

And it achieves the over-arching goals of mobile policy without penalizing the subscriber. In the fact, just the opposite is true. It turns budget conscious subscribers into network management partners! It's as if you sent a letter to them saying:

Dear Subscriber:

We paid a lot of money for the expensive network you're now using, so we certainly want you to enjoy it as much as possible.

However, there are peak times of day when our networks get flooded with an unusually high number of users. So to help us better utilize our network at those times, we are going to send you some offers. If you accept those offers, you'll not only enjoy the services you love at a great price, you'll help us distribute our network loads so everyone can get the high quality services they expect, no matter when they use the network.

Love and Kisses. . . Your Mobile Operator

And there's another key benefit here that goes beyond making your business more efficient. It allows you to exploit the *full value of your network* toward building customer satisfaction.

Truth is, our networks are vastly *under*-utilized. With the exception of certain locations and peak times during the day, the capacity is there. And a network that is unused is like holding a fancy party where nobody came.

If your subscribers use your network twice as often, what's that worth to them? You'll never get a definitive answer to that question, but if you can increase your perceived value by only 10 to 20%, that's probably enough to make you the leading operator in your market.

HOW A DYNAMIC PRICING-BASED POLICY WORKS

Ok, we're now going to describe a live case of dynamic pricing-based policy that was implemented using a Tango Telecom adjunct at Airtel Uganda in Africa.

Tango claims Airtel Uganda (roughly 3 million subs) has achieved great success and the solution paid for itself in one month. In the first month of service using dynamic pricing, the operator's minutes of use

increased from 32 minutes a day to 39 minutes. In that same month, the user base increased an amazing 30%. The policy cycle begins by analyzing real-time cell loads across Airtel Uganda's territory. After that analysis, offers to make discounted calls are broadcast to everyone in a cell that's under-utilized. Subscribers opt-in to the service by dialing a prefix of *171# which redirects the traffic to the adjunct.

Discount offers are usually in the range of 20 to 90% depending on how busy the cell is. If the user's cell is very busy, she gets a small discount, if the cell is not busy, she gets a large discount. After the call is finished, the user gets a confirmation message saying, "your last phone call was at a 90% discount"

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Subscribers are so satisfied with the service that churn has been reduced to practically zero. Customers say to themselves: "If I just move my calling behavior by 10 minutes off peak time, I get a large discount on my call rate. Who else is going to offer me a better deal?"

For explanation purposes, we've simplified how the system works somewhat. For instance, Airtel Uganda offers various layers of discounts. There are discounts that everybody sees and others that are good at particular times and dates. Discounts are also applied based on the customer's value and ability to pay.

Users are notified through an SMS or a small status light on the display signals there's an active promotion the subscriber can use.

Airtel Uganda is also taking advantage of temporary promotions for the hours of 3 to 5 in the morning when the network is idle. For instance, the operator is liable to offer users live music or video stream access during those two hours.

HOW THE ADJUNCT IS DEPLOYED AND ARCHITECTED

Let's now look at the mechanics of how Tango Telecom's adjunct is deployed and architected.

First of all, when dynamic pricing is layered on top of existing calling plans, no billing changes are required. All service logic is performed on the adjunct itself, which controls the actual charging rate or rate that gets applied to the IN monetary balance.

If the subscriber wants a different calling/data plan, they can do so dynamically and at any time. Since the discount is offered in percentage terms, say "save 50% of your megabyte download rate", it is easily applied to whatever rate plan the subscriber has signed up for.

What's more, deploying the adjunct requires no involvement from a billing vendor or network equipment supplier. In fact, the actual implementation of the adjunct is greatly simplified too. All the existing network interfaces are used, so there's no need to negotiate new deals.

The adjunct integrates with the network using standard interfaces, including all the IN standards and Diameter, and preprocesses the signaling information in such a way as to cause the IN to implement the discount.

ADDED BENEFITS OF A PRICING/POLICY ADJUNCT

The percentage discount concept behind dynamic pricing policy may be simple, but there's plenty of flexibility behind how it's applied by an operator.

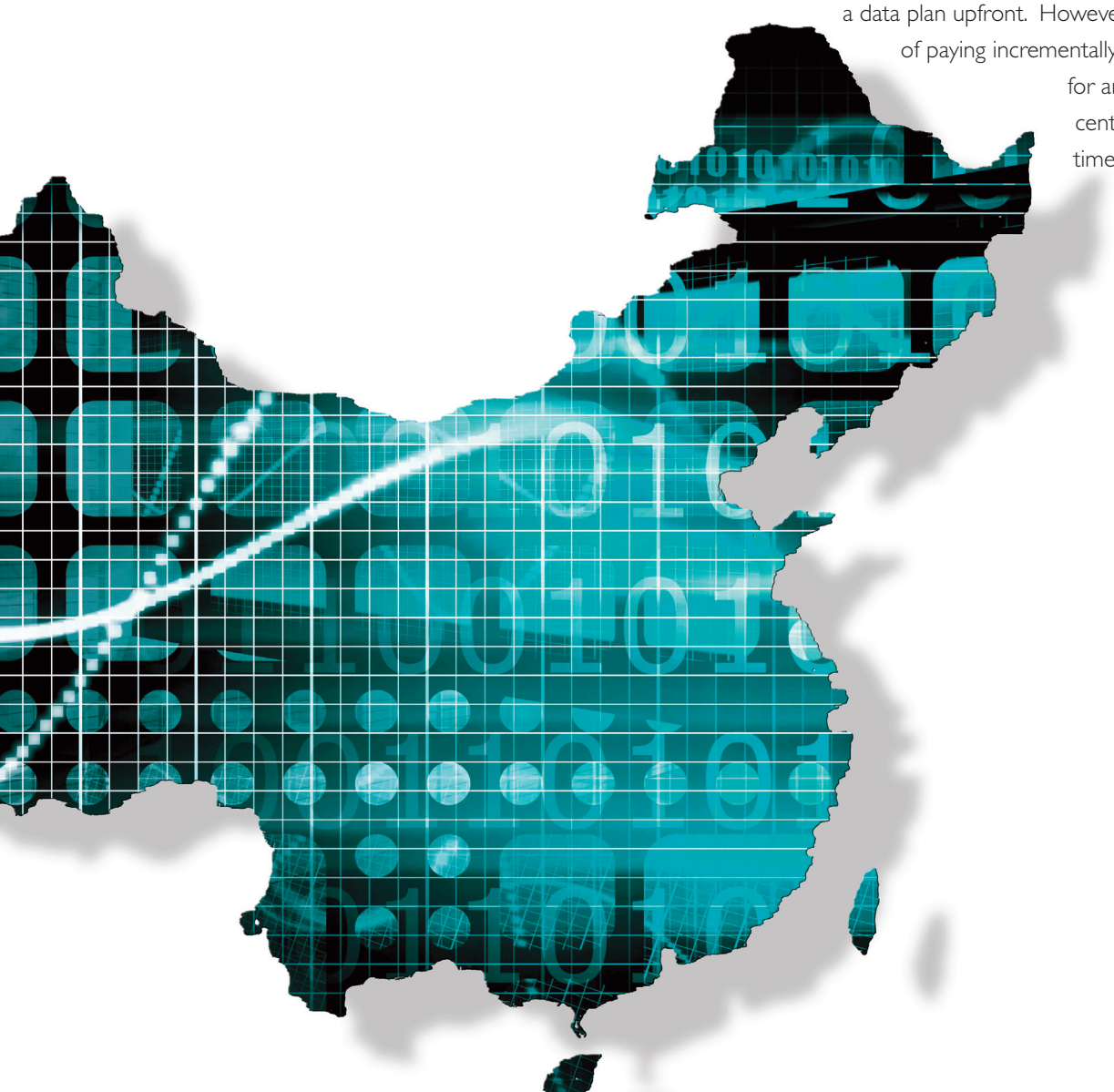
For instance, you're free to offer discounts for products with different QoS features. Maybe you offer three types of video products: 1) a Voice over IP quality video; 2) a download quality video; or 3) a streaming quality video. You can also split products into different time lengths. So the product catalog you create can be very rich and diversified.

The other advantage of this approach is that it can be applied surgically. You are only giving discounts where it makes sense for your business – in low usage cells or at low usage times. You are not making offers in high-usage areas.

Dynamic pricing policy also seems ready-made for developing markets where real time charging and pre-paid are the standards.

People who travel to Southeast Asia report that smartphones are everywhere – and the take up there is far greater than it is in Europe. And one reason is that people see them as status symbols. Yet curiously, if you look at the penetration of data plans, the uptake is very low.

So here again, a dynamic pricing policy has its advantages. People are not going to commit $60 a month to a data plan upfront. However, they love the idea of paying incrementally – get on the net for an hour and pay 50 cents – and do that 10 times a month.



SOME DOWNSIDES TO THE DYNAMIC PRICING POLICY MODEL

While a dynamic-pricing-based strategy is powerful, it's not for every operator. For example, the largest carrier in a given market may find it hard to justify adopting a solution like this.

Since big operators own the largest market share, they won't invest in a program that could lead to a price war. So large operators will probably not put a dynamic pricing adjunct in service unless they are forced to fight back against an aggressive rival who is stealing market share.

Another possible downside: a dynamic pricing solution lacks the more complex rating and features of traditional billing and charging platforms. For example, these billing systems allow users to collect points and establish third party relationships with retailers, which drive certain service discounts.

A dynamic pricing adjunct doesn't do that. Its appeal is its simplicity. So it's a toss up as to which strategy will prevail. Will operators continue to differentiate through complicated rating, or will they turn off sophisticated billing and say to the subscriber: "So you want to buy video streaming quality for the next four hours? Fine, it will cost you $5 dollars."

One other drawback we'll point to is that it may not take up in advanced postpaid markets. As the Airtel Uganda case shows, dynamic-pricing policy can work very well in prepaid markets. But what about North America where subscribers have big-bucket postpaid plans where discount offers don't work?

Well, perhaps other policy tactics would work better. Yet signs are that all-you-eat postpaid plans in North America will be supplemented by tiered pricing with an ability to buy add-on services. Sprint and Verizon are clearly moving in this direction, so this may open up opportunities to employ dynamic discount and policy-based solutions.

SUGGESTIONS ON SELECTING POLICY SOLUTIONS

Although we spent a lot of time in this paper talking about a dynamic pricing-based policy, that's only one policy approach your organization may be considering. So here are some final thoughts on some things you should think about when considering any policy solution:

Minimize Legacy Integration – The solution may look cool, but if it needs heavy integration with billing or IN/network, it's going to be costly. If it takes 6 months for your billing vendor to open up an API for you, you may never finish the project.

Influence with Candy not a Stick – Throttling and cutting off services works, but it's not going to win the hearts and minds of users. The hammer is a blunt policy instrument. So our advice is to use it sparingly. Real-time communication with users and offering relevant incentives is more powerful. It merely requires a little more creativity.

Discriminate on Price – Why not? The airlines do it effectively. Economy passengers know that getting a cheap ticket means putting up with a little inconvenience. Likewise, a service quality/convenience gap is exactly what entices economy passengers to upgrade to first class. However it's important to do this with a scalpel and not a blunt weapon such as "across the board" discounts.

Make it Simple – The greatest promotional ideas are worthless unless users understand what to do. How many of us have mastered our TV remotes? Enough said. No matter what policy strategy you use, your subscribers need to "get it" real quickly. A simple red or green indicator may be all the customer needs to see.

Integrate Real-Time Network Intelligence – A policy platform works best when it's constantly fed with network intelligence on cell congestion, network problems, and other factors that drive the fine-tuned offers you make to subscribers.

Stay Relevant – Only certain subscribers will respond to discount offers. If a 50% savings is not attractive to the user, they won't change. So how do you know who to offer what? Well, that's where customer analytics comes in. The best policy solutions will be tied to intelligence on subscriber behavior, recent complaints, preferences, and that customer's long term value to the business.

Get Users Working for You – One of the beauties of dynamic pricing-based policy is that it gets subscribers directly involved in improving network utilization. And this philosophy applies equally to other policy strategies. Whenever possible, treat users as your partners.

EXECUTIVE SUMMARY

Policy is set to play a major role in mobile's future, but which flavor of policy succeeds remains an open question. Thus far, the costly, network-heavy approach to policy is not delivering the goods. Real world success stories are few and operators doubt whether service throttling can win the hearts of subscribers. This paper points to a wider view of policy, presenting details of a live deployment in Africa which proves that low-cost, fast insertion policy approaches that leverage dynamic pricing and low-tech discount offers can be highly effective. The solution is especially applicable to small- to mid-sized telecoms in a market who seek to grow their market share aggressively.