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CUSTOMER PRE-CHURN ANALYSIS OF THE CABLE TELEVISION INDUSTRY

Events preceding churn and what can be done before revenues are impaired

TELESTE

ABSTRACT

Many organizations have optimised processes in an effort to find new customers. Such organisations encounter issues when markets reach a mature state, making customer retention a pivotal strategic challenge. Churn is commonly defined as the actions whereby customers discard the services they previously subscribed to. Scholars and industry practitioners have discovered ways to predict potential churners in advance. While the reasons for churn are often known and reported, there is very little publicly available information regarding what kinds of events preceded the churn. Although the most commonly reported reason for churn has to do with the price for subscription services, the deeper reasons for why the price triggered a departure are more complex and less discussed.

This paper will conduct a literature review as a means of discussing how existing articles consider pre-churn events and then offers a novel view on how to understand the spectrum of events preceding the churn based on original research. The relevance of such variables as the quality of the network, the speed of ticket handling and the number of services are canvassed in two research phases.

The results from the first phase of the survey provide insights into how many subscribers of cable television services are potential churners and how easily they might cancel their subscription. The second phase included interviews in order to understand pre-churn events and the most frequent patterns leading to customer departure. The survey and interviews were performed across Europe; thus, readers should make a judgement call as to whether the results are applicable in other regions.

The cable television industry expects proactive network maintenance (PNM) tools to solve many issues also identified in our research. The positive impacts of tools harnessed for PNM are briefly discussed and their relevance is evaluated in light of the findings in this study. The results of the research are expected to offer useful managerial guidelines for cable television executives operating in an uncertain and rapidly changing marketspace.

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How definitions are interpreted in this study:

ARPU [euros or dollars per month]
Average Revenue Per User

Cable television network
A wired network that can carry broadcast television services and other services, such as broadband data or video on demand. The wire is either a fibre cable or a coax cable and the network commonly uses both cable types together (HFC).

Cable television operator
An operator that offers services over the cable television network.

Churn [Ratio in percentages, annually]
The number of customers who stopped subscribing to services divided by the number of all customers. In this study, the stop means that more than 50% of services are abandoned. Greater than 50% refers to total revenues, thus it means more than a 50% decrease in ARPU. In other words, a customer whose ARPU before the service churn was 50€ per month and 26€ per month after the service churn is not a churner in this study.

Service churners
Customers who stop subscribing to certain services but continue ordering others.

WHAT WAS KNOWN BEFORE OUR RESEARCH WAS STARTED?

Churn prediction

Several research papers present methods for identifying future churners. Many papers discussing churn study customer retention in general and review the accuracy of the different methods. A relatively comprehensive state-of-the-art comparison concluded that the main trends in 2007 included regression analysis, neural networks, decision trees and markov models [1]. While many general comparisons meet strict academic standards, are generously cited and are published in A-level journals, the same does not apply for many comparisons discussing churn in the telecommunications industry.

The accuracy of the different churn prediction methods evaluated in later studies focusing solely on the telecommunications industry are frequently at a level exceeding 80% [2] [3] [4]. The later studies still partly incorporate methods already used in 2007. For instance, one study found that the precision of neural network and decision tree models was close to 80% in 2015 [2]. Likewise, several newer methods have been tested against older ones. For example, in 2015 the two top performing techniques were the two-layer, back-propagation network method and the decision tree method, both of which achieved 94% accuracy [4].

Many input parameters impact the reported accuracy of the method, thus outcomes differ between studies. Most models are mathematically complex prediction algorithms based on data mining techniques, although frameworks using a brute force approach can also exceed 80% accuracy [5]. The brute force approach may use customer transaction logs and simple information, such as how many days a customer remained inactive [5]. The level of accuracy in most of the studies is calculated based on offline information, meaning that all of the information is already available when the accuracy level is calculated. For instance, if a period of six months is studied, then the first four months is used to teach the algorithm. After four months, the educated algorithm is used to predict churners for the next two months and the prediction is compared to the known information regarding which customers truly became churners.

The research focus has been on predicting the churn of mobile operators; thus, the relevance of the performed research for cable television operators is somewhat questionable. Predicting the customer churn for landline communication services requires more variables in order to obtain more accurate results [6]. However, even within the mobile telecom industry, the best churn indicators were parameters defining the level of interactivity. Therefore, cable television operators offering such interactive services as broadband data might find the above-mentioned research papers valid even in their case.

What seems to be common between many analyses is the surprising fact that the author(s) of the research developed during the research phase a new method that was superior to already known methods. This might raise questions as to whether the effectiveness of different methods has always been analysed properly. Although some research bias may exist, it is safe to say that currently several methods can accurately predict customer churn in eight cases out of ten. While this information can be seen as encouraging, it is not an answer to more fundamental questions: What causes churn and what can be done to prevent churn?

Summary:
Several methods can predict customer churn in eight cases out of ten.

Churn versus service bundles

The actual churn rates of cable television operators are discussed less frequently. Still, some operators share this information publicly and some operators share background information that can be used to calculate churn rates [7] [8] [9]. Based on publicly available information, we can state that the churn rate of triple-play customers seems to be lower than the churn rate of single-play customers. This statement is in line with the findings of scholars who report a remarkable correlation between the churn rate and service bundles, i.e. bundling does reduce churn [10] [11] [12].

An important factor impacting the churn rate is the customer switching cost, meaning the cost that consumers encounter when switching service providers [13]. The switching cost in the cable television industry varies, but one study found it to be approximately $109 [14]. The annual churn rates in the cable television industry are seldom reported, but the few reported churn rates range between 10% and 32% [7] [8] [9].

The large variation between churn rates, especially between the churn rates discussed publicly, can partly be explained by the unclear terminology. When a cable television customer stops ordering broadcast television services but continues ordering broadband data services, the customer might be called a churner, a service churner or a 'cord cutter'.

In this study, the reported churners are persons who stopped ordering more than 50% worth of all services provided by the cable television operator, while service churners are persons who stopped ordering certain services, but not more than 50% worth of services. In other words, in this study churn refers to a greater than 50% decrease in the average revenue per user (ARPU).

Summary:
Service bundling reduces churn. A departing customer experiences switching costs that lower the churn rate.

Cost to acquire new customers

Customer acquisition cost (CAC) varies a great deal between industries and geographical areas. One comprehensive study reported ranges between $161 and $752 per customer, with a mean of $374 and a median of $361 [15]. However, in this study the companies being assessed were telecommunication companies with more than 50% of their revenues generated from wireless operations in the period 1997–2004.

More recent research involved observing free-trial promotions of interactive digital television and customer retention after the trial period. The estimated cost for acquisition was €170 per customer in a trial covering more than ten thousand customers in Europe [16]. In this trial, the network infrastructure existed and the acquisition cost did not include infrastructure investments. Thus, the real cost in acquiring new customers is often much higher, and infrastructure investments dominate the acquisition cost calculation [8]. Although the CAC varies, keeping the existing customers satisfied is always a more financially robust alternative than trying to acquire new customers to compensate for the churn figures. This statement becomes even more valid in mature markets, where the total number of possible new customers is not increasing.

> **Many operators have optimised their sales and marketing functions to make them into effective acquisition machines, but has this optimisation process improved customer satisfaction among existing customers or even decreased it?**

Many operators have optimised their sales and marketing functions to make them into effective acquisition machines, but has this optimisation process improved

customer satisfaction among existing customers or even decreased it? Most likely, a great deal of marketing and sales money is actually used to compensate for churn that could have been avoided in the first place. This hypothesis leads to several important questions: What can be done to prevent churn? And, how can most of the sales and marketing costs be made available in order to increase the total number of customers instead of merely compensating for the churn?

Summary:
Although the customer acquisition cost varies, keeping the existing customers satisfied is always a more financially robust alternative than trying to acquire new customers to compensate for the churn figures.

Network reliability versus customer retention

A study focusing on internet service providers (ISPs) revealed that network service reliability explains 64% of the variability in customer retention rates [17]. However, service reliability is an experienced measure if quality exceeds customers' expectations and the expectations are partly set by the service providers [18].

The experienced service reliability might also be low due to the fact that some consumers do not know how different applications should be used. Unfortunately, it does not matter why customer departures happen; when people experiencing low internet speeds due to faulty Wi-Fi settings are churning, they are still churners, even though the lack of wireless 'fidelity' is caused by the way in which they themselves configured the settings.

Another study addressed network reliability to a certain extent: researchers interviewed 22 churners via telephone, most of the participants were over 60 years of age [19]. The study might indicate who normally answers telephone interviews, but generalising from such results to cover younger customers would be bold.

The most practical guidelines have been reported in a study discussing pre-churn events in US [20]. Unfortunately, the report fails to provide enough information to evaluate its validity, such as how many customers were interviewed. Therefore, our study gives a more transparent insight into how the quality of the network correlates with the churn rates in the cable television industry throughout Europe.

Summary:
According to publicly available studies, the possible correlation between network reliability and customer retention rates in the cable television industry is not well known. In one study, the network service reliability of internet service providers accounted for 64% of the variability in customer retention rates.

METHODOLOGY, PARTICIPANTS AND THE RESEARCH QUESTIONS

To explore events preceding churn, we first gathered data via an internet-based survey. The survey was not made publicly available because we wanted to ensure that the results are not biased by people who may have various interests in sabotaging the inquiry by answering incorrectly. Our sample was carefully selected to cover several European countries and reflect a range of diversity among the participants; the median age of the participants was 45 years.

The survey was followed by in-depth interviews with several focus groups identified in the preceding internet survey. Although the survey and in-depth interviews covered several European countries, they were all conducted in English. This may mean that the average education level of the participants was above the general median.

The survey was sent to 700 people, and 278 replied. People were not pushed to answer or offered any rewards because it could lead to incorrect results. Therefore, the 40% response rate was reasonable. The respondents were further divided into focus groups, and people in the selected focus groups were addressed directly, either through email, by phone or in face-to-face meetings.

The research was conducted during the first quartile of the year 2017. Prior research has shown that customer churn is a long-drawn-out process and not usually reflective of one particular incident; consequently, the switching path analysis technique (SPAT) is well suited to research events preceding the churn [21]. The methods used here and the questions being asked were curtailed to give clear results that have managerial impacts and are suited for executives who must make quick decisions in the rapidly changing market place.

Our research questions were as follows:

1. How many customers of cable operators might be churners in the near future?
2. How many customers of cable operators will most likely be churners in the near future?
3. What kinds of events and event patterns preceded the churn?
4. What kind of correlation exists between the quality of the network and the likelihood of churn?
5. Do the profiles of churners, conditional churners and very probable churners differ?
6. What kinds of actions, according to customers, could prevent churn?

Summary:
The survey was sent to 700 people, and 278 replied. The average age of the participants was 45 years. The survey was followed by in-depth interviews with several focus groups identified in the survey.

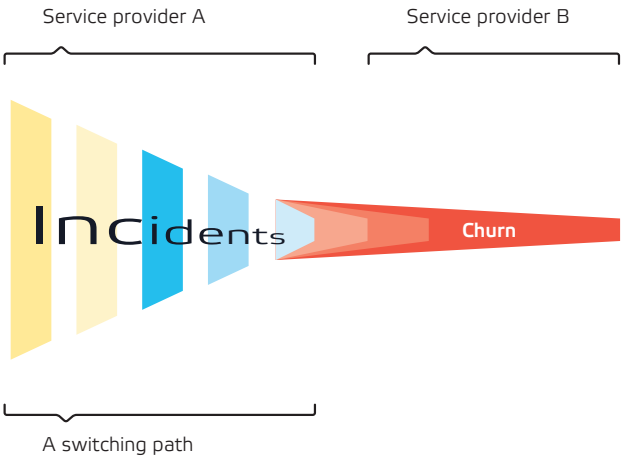


***Figure 1**. The switching path analysis technique (SPAT)*

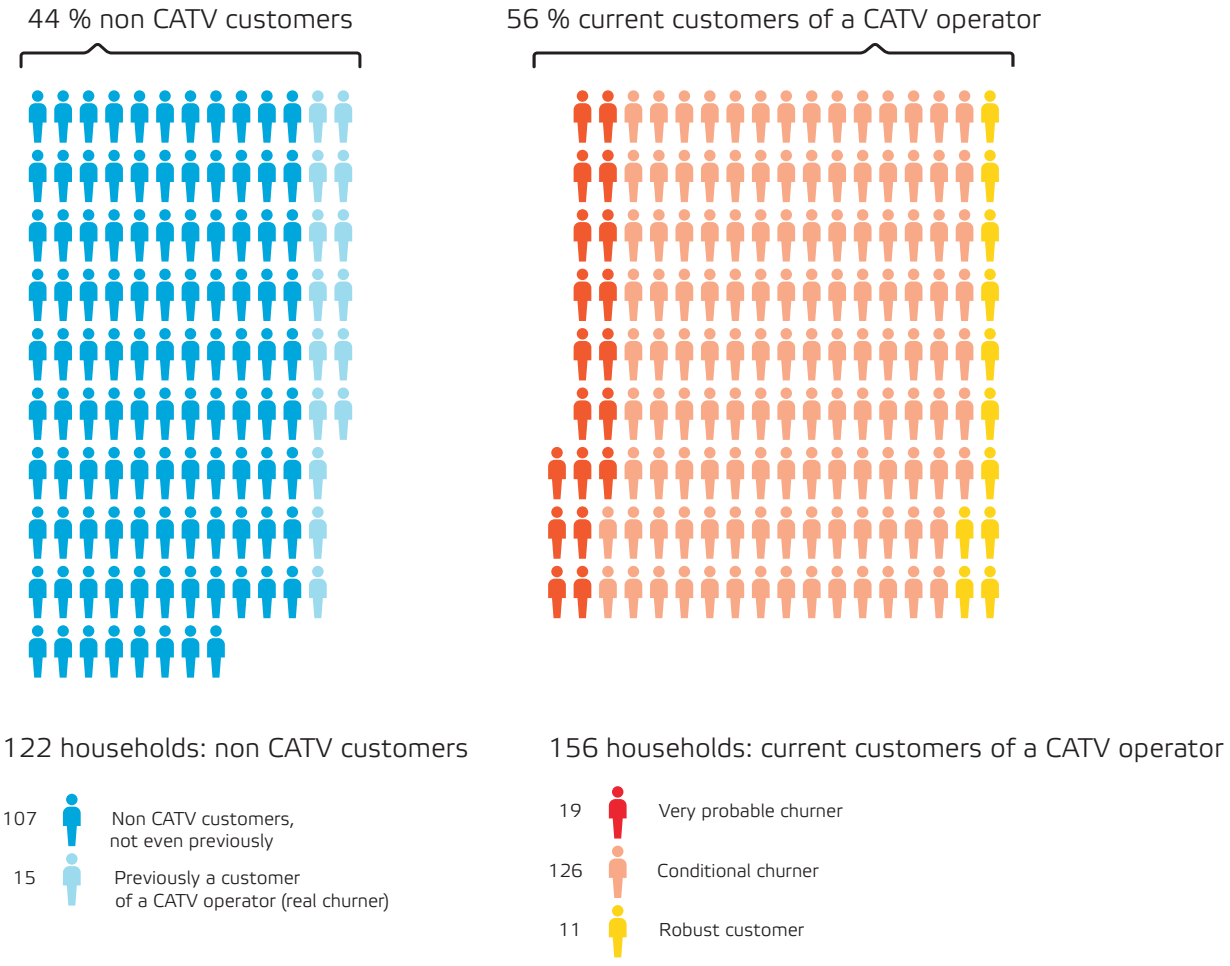
RESULTS

The first phase

The survey was sent to 700 households, and 278 replied. In total, 156 (56%) households were current customers of a cable television operator, while 15 households had been customers but had decided or were forced to change their current cable television operator. In this study, the 15 households are called **'real churners'**. Respondents were living either in single-family townhouses (135 persons) or in multi-dwelling units (36 persons).

All 278 households reported ordering some broadband services, such as broadband internet. The households who were not served by cable television operators were served by telecom operators or utilities who offered ADSL, VDSL, FTTH or wireless-based broadband. The customers of telecom operators and utilities were receiving their broadcast television services through satellite or terrestrial links or pure IPTV services over FTTH or DSL connections.

Figure 2. *The group taxonomy: the number of CATV and non CATV customers out of 278 households.*



The cable television customers were further divided into focus groups by defining the likelihood that they would become churners in the near future. The first question was as follows:

Would your household change its current cable television operator if similar services were provided by other operators?

Households were identified as being '**very probable churners**' if they answered:

Yes, even if the cost of the subscription was same.

Households were identified as being '**conditional churners**' if they answered:

Yes, but only if the cost of the subscription was lower.

An additional question was asked to find out if households might be either very probable or conditional churners:

Would your household change its current cable television operator if better services were provided by other operators? Better means any matters your household considers to be important, such as better quality of service, higher broadband speed, more content or, e.g. a more pleasant customer service.

Households were identified as being '**very probable churners**' if they answered:

Yes, even if the cost of the new subscription was higher.

Households were identified as being '**conditional churners'** if they answered:

Yes, if the cost of the new subscription was at the same or a lower level.

In total, 19 households (12%) out of 156 were identified as being very probable churners, while 126 (81%) households were identified as being conditional churners. Therefore, 145 (93%) households were identified as being either very probable or conditional churners.

In total, 11 (7%) households were identified as being in the focus group called '**robust customers**'. The group included customers who were not very probable or conditional churners. The reasons behind their robustness were studied during the second phase of our research.

Figure 2 on page 7 illustrates the results of the first phase.

The second phase

The focus groups were addressed directly, either via email, by phone or in face-to-face meetings. In total, 160 households were either identified as being very probably churners (19), conditional churners (126) or real churners (15).

We approached all focus groups to find answers to the following questions:

What kinds of events and event patterns preceded the churn?

What kind of correlation exists between the quality of the network and the likelihood of churn?

Do the profiles of real churners, conditional churners and very probable churners differ?

What kinds of actions, according to customers, could prevent churn?

The switching path technique was briefly explained to all focus groups and we highlighted the meaningfulness of events preceding the churn to the 'real churners' focus group. This was accomplished by saying that we wanted to know what caused dissatisfaction and what the respondents actually reported to the operator if the operator asked why they wished to stop the subscription. Two other focus groups (very probable churners and conditional churners) were asked to answer what kinds of events caused dissatisfaction. All of the focus groups were encouraged to give ideas on how their level of customer satisfaction could be increased. All of the focus groups were asked to respond the following situation:

Please think if there have been any situations when your customer experience was unsatisfactory. If so, please select the top three categories that best describe the situations when your experience was unsatisfactory in recent years. You can also select fewer or more categories if selecting three does not describe your customer journey well enough.

The six categories provided were as follows:

Category A: Network performance
Category A included all kinds of technical issues, such as the following: slow broadband speed, a pixelated image, the network being down or a malfunctioning cable modem.

Category B: The offerings
Category B included all kinds of service issues, such as the following: interesting content or channels were not available, customers needed to order other channels in order to get the channel they really wanted, some of the interesting channels had been removed or the operator did not offer broadband services.

Category C: Negative interactions
Category C included all kinds of negative interactions with the operator's organisation, such as the following: the technicians who visited customers were not polite or were slow, the installation failed, a customer service advisor was not polite or was not able to help the customer, or customer service was slow.

Category D: Process
Category D included all kinds of process issues, not necessarily just negative interactions. For example, the customer service centre was difficult to reach, it was difficult to arrange a time when the installation could be performed because technicians were not available during the evening, the operator did not communicate about upcoming changes or there were problems with incorrect invoices.

Category E: Price
Category E included all issues regarding pricing, such as the following: customer felt that the subscription was too expensive, the price had increased, a promotional offer had expired or the price was different than that which had been agreed upon.

Category F: Other issues
Category F included any other issues that did not belong to the categories described above.

All of the participants were further encouraged to elaborate upon their choices. We also asked more detailed questions to make sure that the respondents understood the categories in the same way. Only the split between categories C and D caused some questions, but after the questions had been explained to them, the participants found the distinction between C and D categories reasonable. After the categorisation exercise, the respondents needed to answer one further question:

What would be the best single action the operator could take in order to improve your customer experience? In case you have already chosen another service provider, what would have been the best single action your operator could have taken?

The interesting results are reported next.

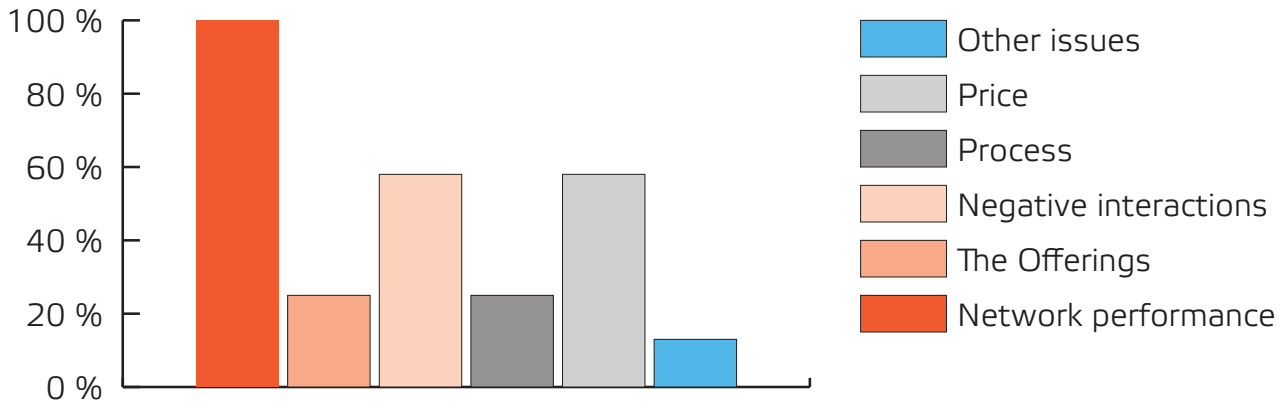


Figure 3. *The dissatisfaction elements, 'real churners' group.*

The dissatisfaction and satisfaction elements

Real churners - The dissatisfaction

The dissatisfaction elements in the 'real churners' group are illustrated in Figure 3. All kinds of technical issues (Category A) were experienced more frequently. Both the offerings (Category B) and the process (Category D) caused dissatisfaction in 25% of cases. Every second customer reported having had negative interactions (Category C), while process challenges (Category D) less frequently accounted for customer dissatisfaction. Fifty-eight per cent of customers felt that the price (Category E) was too high.

The interviews revealed the challenge in naming the root cause of network issues. For instance, some respondents felt that slow broadband speed was caused by malfunctioning cable modems, while others thought that the access network was 'broken'. Participants felt that traditional broadcast television services were very robust, whereas interactive television and data services led to dissatisfaction because of service interruptions. None of the customers reported bad quality for the linear TV broadcast service, but they felt the traditional broadcast service was less relevant. As one of the interviewees describes it:

'Before calling to [the] helpdesk, TV service breakage could last several days. Internet access is by far more important to me.' (Male, 50)

Thirteen per cent of the group had moved to another location where the same operator was not able to offer the same services. Although they were churners, their churn was not triggered by dissatisfaction. Only one respondent had moved to a new location where the same operator was able to offer pay TV services, although not over the cable television network. The pay TV services were offered over the IP connection, but the quality of the experience in comparison to traditional broadcast was poor and resulted in churn.

Very probable churners - The dissatisfaction

The dissatisfaction elements in the 'very probable churners' group are illustrated in Figure 4A. All kinds of technical issues were experienced by members of the group as frequently as by the 'real churners' group. As Figure 4A shows, most of the people in this group were satisfied with the offerings, while negative interactions were commonly experienced by members of this group. The price caused dissatisfaction in 43% of the cases. Very few customers were able to say what accounted for the deterioration in the network performance. They thought that the network issues they had experienced were caused by a faulty access network or broken cables, by malfunctioning cable modems or by failures in the set top boxes. In over 50% of the cases, negative interactions with the operator increased the dissatisfaction levels originally caused by poor network performance. Appendix A describes the tribulations of a customer who experienced many of above-mentioned issues.

Participants identified two of the root sources behind the negative interactions as being most common: problems with the helpdesk and field technicians. Customers who contacted the helpdesk were resentful because helpdesk was not on top of things. Some former DSL customers were surprised that the helpdesk was not

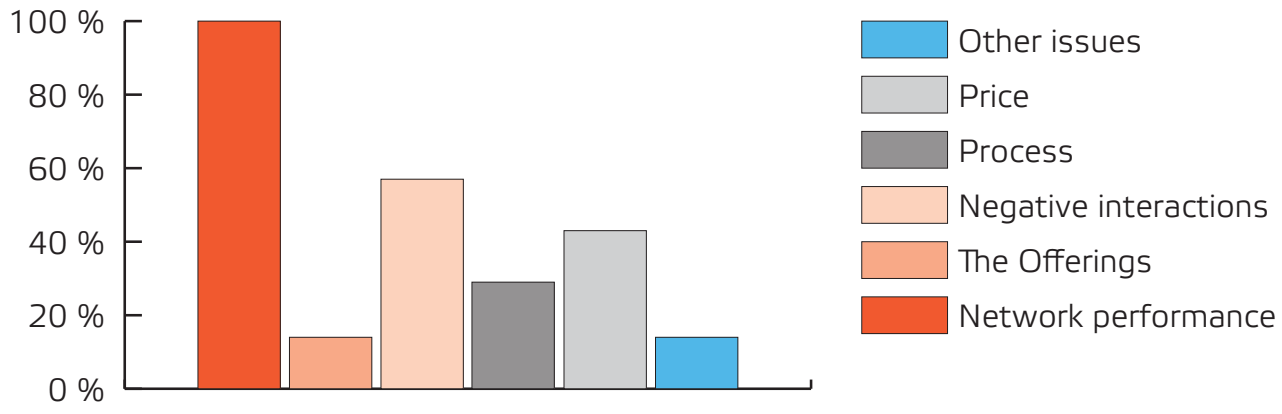


Figure 4A. *The dissatisfaction elements, 'very probable churners' group.*

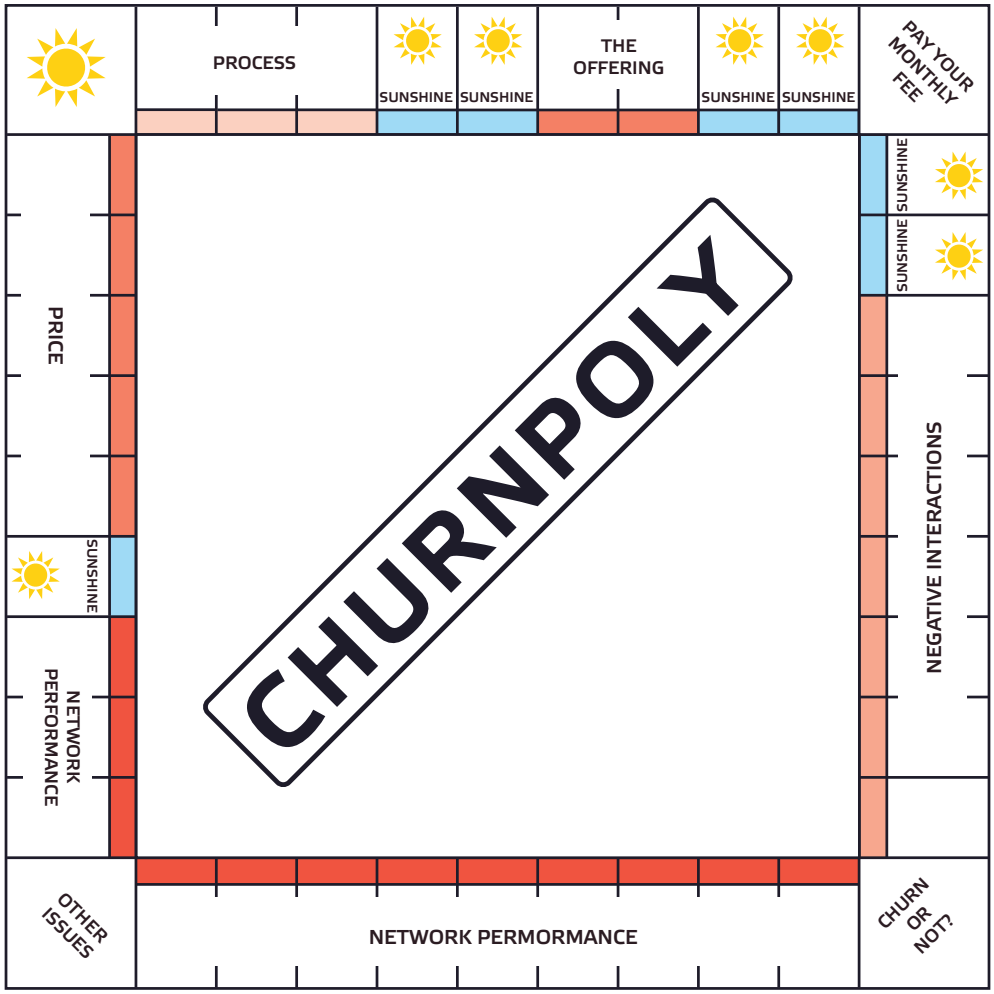


Figure 4B. *Churnpoly? The illustration shows how likely customer journeys (very probable churners) cross different categories. Twelve squares equal to 100% because it is the maximum sum when two dice are thrown. The percentages seen in Figure 4A (page 10) are rounded in Figure 4B to form whole squares.*

able to see the status of the cable modems, as their former DSL broadband operator's helpdesk had been able to. Some customers felt that the helpdesk probably had monitoring tools to help, but that it was unwilling to discuss any technical matters because people at the helpdesk were not trained in how to use such tools. When customers asked if their problems would be fixed in the coming days, the helpdesk was not able to give a clear enough answer.

Also, the unclear status of ongoing repairs caused significant frustration. Some customers were offended because of all the questions that people at the helpdesk asked them. These customers thought that the purpose of the questions was to find any reason to end the call. Some individuals were 'sure' that these questions were asked only because of their gender. While sometimes the field technicians proved to be very helpful, at other times technicians wanted to leave as soon as possible, even when the problem was not truly fixed. Some customers were unable to understand why technicians were not willing to solve the problem at one go. Although improper field fixes led customers to report negative interactions, the helpdesk itself was the source of the negative interactions in 80% of cases.

Conditional churners - The dissatisfaction

The dissatisfaction elements in the 'conditional churners' group are illustrated in Figure 5. An interesting difference between the 'conditional churners' group and the 'very probable churners' group can also be seen between conditional churners and the real churners. Network performance issues dominated the list of complaints less often, and the share of negative interactions was remarkably low for the 'conditional churners' group. The reason had to do with the number of interactions.

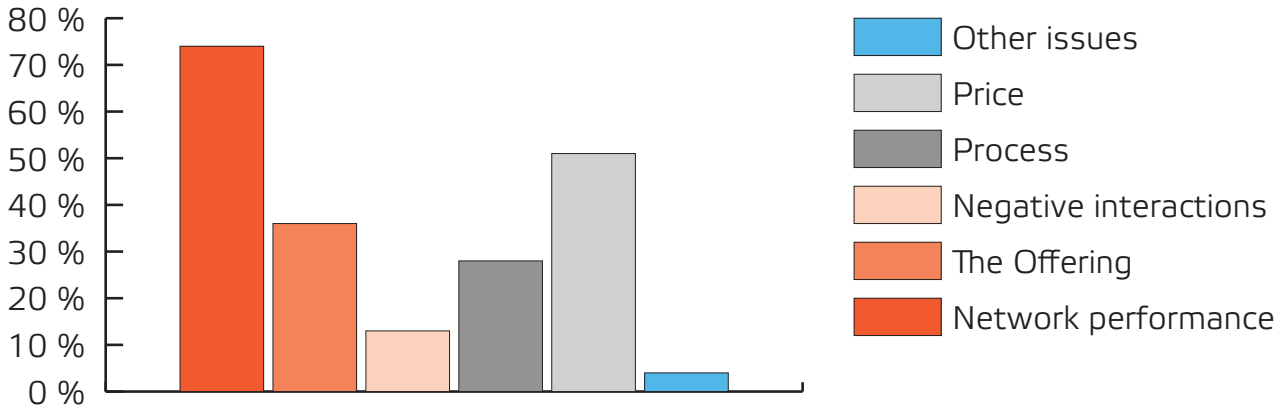


Figure 5. *The dissatisfaction elements, 'conditional churners' group.*

Although many conditional churners have experienced network performance issues, these issues have not triggered a call to the helpdesk. The issues have been either less serious or else some of the customers in this group are simply more tolerant. Nonetheless, they identified two of the root causes accounting for negative interactions as being the same as those identified by members of the 'very probable churners' group: the helpdesk and field technicians.

Robust customers - The satisfaction

After further discussions with the eleven robust customers, the group taxonomy was revealed. The group included two customers who had only one operator in their area, and because of a lack of alternatives, they could not even consider another operator. Although the third customer in this group had been forced to reset his cable modem monthly, he was not willing to change the operator because he was sure that other operators would offer an even worse customer experience. The fourth customer was a service churner. He still ordered most of the services from his existing cable television operator, but the traditional linear television content had been switched to over-the-top (OTT) content.

The remaining seven customers had not experienced any significant issues, or they had encountered a very helpful helpdesk and/or field technicians. One of those positive stories is shared in Appendix A.

All of the robust customers except for one reported ordering more than one service from their current cable television operator. Many customers in this group were able to name certain content that was extremely important to them, often particular linear TV channels containing sports content. Removing any of those channels could easily lead to customer dissatisfaction and, ultimately, to churn. Thus, keeping those channels, even if the content was, generally speaking, only of marginal interest, is really important. Likewise, members of this group reported that switching cost awareness and the hassle threat were significant factors. As one interviewee in this group put it:

'I haven't had any significant problems with my current cable television operator. We have two set top boxes, and teaching [the] family to use new set top boxes would be too laborious.'

Proposed improvements to reduce churn

Our last question was as follows: '*What would be the best single action the operator could take in order to improve your customer experience?*'

The answers were consistently proposals that the operator should simply fix the problems that the respondents reported. While many matters might have resulted in customer dissatisfaction, the journey towards churn was almost always initiated by poor network performance. The reported repair times were sometimes only a couple of days, while the longest repair time was over six months. Repair times lasting more than a month were reported frequently if the problem had to do with the network and was not inside the consumer's household. Missing content or the complexity of channel bundles explained service churn when customers chose to stop their pay TV subscription and switch to an OTT service. Switching to an OTT platform did not lead to a broadband data service churn, and therefore cable operators offering broadband connections are not in danger of losing their customers, although keeping the existing ARPU may become a challenge.

Summary:
In most of cases, network problems initiate the journey that leads to churn if dissatisfaction is fostered by negative interactions with the helpdesk or with field technicians. In some cases, the channel bundles keep customers hooked, but in other cases they lead to service churn.

Preventive and reactive network maintenance

Based on the findings of this study, poor network performance often initiates the customer journey towards cancelling a service if problems are not fixed quickly and precisely. Therefore, any tools that can prevent network problems would lower churn remarkably. Interactive (bi-directional) devices are sensors in the network that produce useful data, but the data needs to be processed by tools that offer a holistic view. Cable modems are good sensors, and in the best case, they offer data that, in the right hands, becomes truly preventative.

A simple and concrete example is the output level of the upstream coming out of the cable modem. When the CMTS askes modems to increase the output level, it does so for logical reasons. A maximum output level tells us if the network has been incorrectly adjusted or if the upstream frequencies have been attenuated too much, or perhaps both. High attenuation might mean that the passive components, connectors or cables between the household and the last amplifier are broken or faulty due to corrosion or for other reasons. Or, it might mean that the customer is behind a longer drop cable and that very little can be done.

> **Even these complex issues can be managed remotely if information provided by the DOCSIS solution is combined with the information that intelligent network devices can produce.**

Whatever the reason, this information is useful and typically available before customer even experiences serious problems and calls the helpdesk. How many helpdesk people have access to this information in an understandable format when a customer calls? Although the helpdesk personnel are not be able to fix faulty connectors remotely, their knowledge would make customers feel that they are in good hands. The interaction would not be so negative when the helpdesk is trying to solve the problem together with the customer, and customer would not be bothered with simple questions, such as if the modem is on or off.

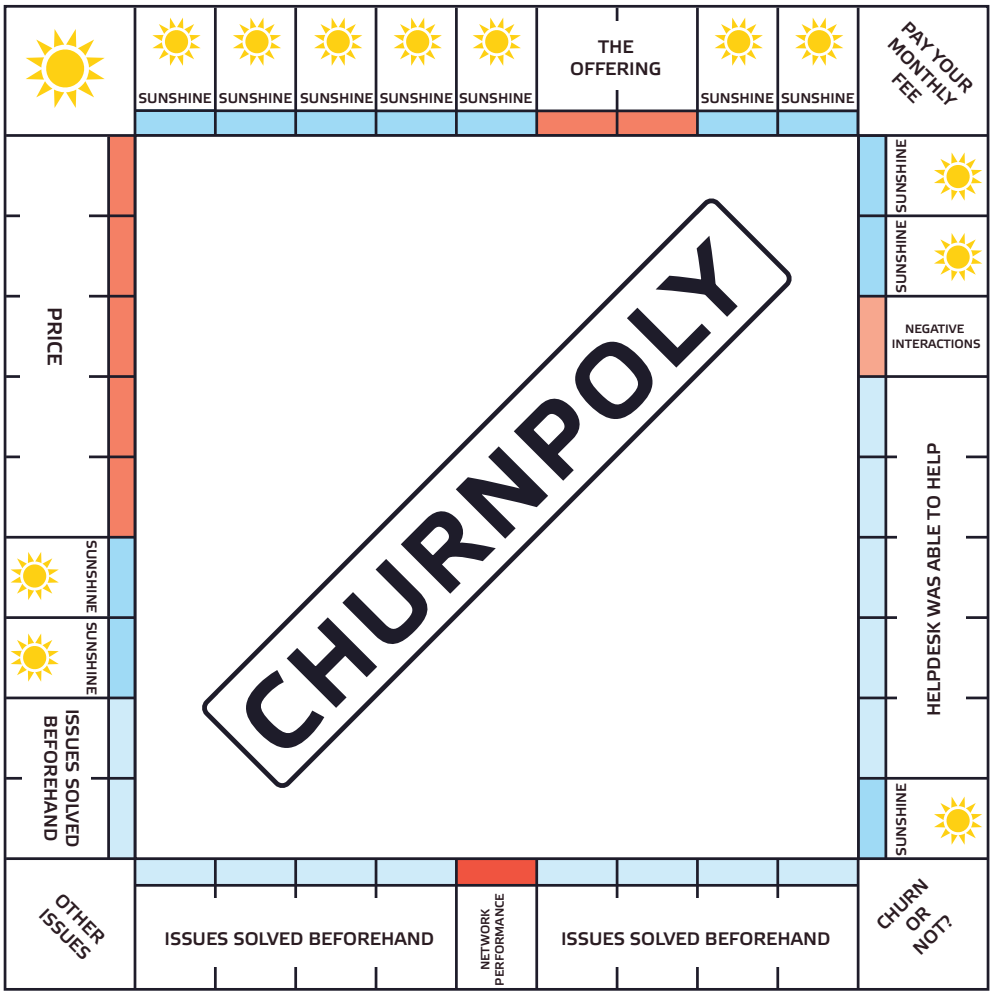


Figure 6. *Churnpoly? The illustration shows how likely customer journeys cross different categories. Twelve squares equal to 100% because it is the maximum sum when two dice are thrown. The squares in Figure 4B (on page 11) are here converted to show how customers journeys could look when a sound network is managed by holistic and preventive network management tools.*

The above-described example has been overly simplified and true network problems are often quite complex, such as occasional ingress or common path distortion. However, even these complex issues can be managed remotely if information provided by the DOCSIS solution is combined with the information that intelligent network devices can produce. All of the tools needed to solve problems before they first appear already currently exist, and cable operators can offer a customer experience that exceeds a customer's expectations. PNM solutions can help engineers prevent problems, and transparent network monitoring tools will help both engineers and the helpdesk. New problems will always appear, but, based on our research, we can claim that the network problems alone do not cause churn; rather, it is the way in which the problems are solved that ultimately lead to churn.

Summary:
Poor network performance often initiates the customer journey leading to a cancellation of services if problems are not fixed quickly and precisely. All of the tools needed to solve problems before they first appear already currently exist. Although the helpdesk personnel are not able to fix faulty connectors remotely, their knowledge would make customers feel that they are in good hands.

CONCLUSIONS AND MANAGERIAL SUGGESTIONS

The findings from our research lead to a set of managerial suggestions that, after all, do not sound surprising. Churn can be predicted and managed. Offering service bundles clearly reduces churn and providing flexible channel bundles prevents service churn. Acquiring new customers to compensate for the churn is expensive, and yearly churn figures should not be taken as a number that cannot be improved upon. After all, very few customers are churners because they move outside of the service area. Network reliability is the single most influential factor causing dissatisfaction, and almost every customer is a potential churner. However, churn is only realised when several mistakes are made one after another.

The profiles of the two groups responsible for ensuring customer satisfaction, helpdesk personnel and field technicians, should be improved since they control customer experience. Understanding their importance to customer experience management will reduce churn. While field technicians and network engineers can prevent many helpdesk calls, the helpdesk can prevent customer departures. But it requires the right tools. Transparent monitoring tools and holistic network management tools, together with the data that intelligent network devices and DOCSIS cable modems produce, will equip operative people with the ability to reduce churn remarkably.

Our research did not involve studying how commonly operators subcontract operative tasks; instead, it focused on field technicians and the helpdesk, either own or subcontracted. Certain interviewees indicated that the incentives offered by operators to subcontractors might lead to sub-optimisation, which ultimately causes dissatisfaction. The other side of the coin obviously has to do with the cost of subcontractors if subcontractors are compensated on hourly fees instead of fixed fees. Hopefully, operators will be able to find a mixed model that increases customer satisfactions and keeps costs at a decent level.

Limitations and avenues for future research

Although our research covered several countries throughout Europe, it has limitations that might offer interesting avenues for future research. First of all, our findings are based on data obtained from 171 households. Therefore, the results of this study should be replicated with larger sample sizes. The results from Europe might be different than on other continents, thus replicating this study on other continents could reveal interesting points of divergence. We approached customers living in multi-dwelling units similarly as customers living in single family townhouses. This required that customers living in MDU imagine that they alone could decide who provides their cable television and broadband services. A study addressing MDUs separately could take into account the decision-making process of MDUs. For instance, many MDUs have several people who are influencers, and their recommendations often guide the decision-making process of the MDU community as a whole.

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Before devoting his efforts to technical marketing, Arttu served as business director, product manager and an engineer at Teleste Corporation. Arttu is an active content producer and his interest lies in the latest network and video processing technologies. Understanding the customer perspective has always motivated Arttu, and his latest research work focuses on consumer retention rates, especially on the question of how operators can use intelligent network products to prevent pre-churn and churn. Arttu joined Teleste in 1997 and holds an MSc in technology.

The author gratefully acknowledges the support from the research team and Teleste Corporation.

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Hannele Ahlroos (survey implementation)
Jouni Karlsson (illustrations)
Päivi Vuori (editor)

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CUSTOMER STORIES

Smooth and flexible services create a good customer experience

Customer A lives in an apartment building, and the housing company maintains the basic subscription for TV and broadband services with the local cable TV operator on behalf of all the residents. In addition to the basic services, Customer A subscribes to a pay TV channel package. Customer A is quite satisfied with the services and finds them reliable and flexible.

Reliability counts when the customer journey begins

The housing company purchased the current TV and broadband services about five years ago. As the building could be serviced by several operators, the residents were able to choose which operator's offerings best met their needs and wishes.

From a technical standpoint, there was no significant difference between the offers received by the housing company. Likewise, the cost of basic services for the building was on a relatively equal level among all the bidding operators.

The decision about the service provider was made on the basis of the operator's good reputation. As no significant difference was found in the offers, the housing company decided to select the operator they trusted the most. The decision was also influenced by the selected operator's willingness to tailor the services to meet the residents' needs and their helpful customer service.

High quality brings trouble-free performance

Customer A is satisfied with both his cable TV and broadband services. The selected operator has provided the services in a way that his demands have been met, and service availability has been at a very high level.

During the 5 years of operation, there have been no services outages in the cable TV delivery and only one concerning broadband connectivity. The service reliability has been significantly improved compared to that of the previous operator.

According to Customer A, error-free broadband connections are of the utmost importance when evaluating the quality of services. In addition, he is also quite pleased with the flexibly organised cable TV delivery. The operator's pay TV smart card can also be used at other locations, e.g. at the summer house, which makes it possible to enjoy the familiar, attractive TV channels also while on vacation.

The flexibility of services has been further increased by the possibility to choose which channels to include in the channel package. Customer A also finds it easy and effortless to make changes to the subscription without a need to change the service agreement.

'It works, why fix it?'

The residents have had positive experiences with the current operator overall, and the services and operations have fulfilled their expectations. When compared to other service providers, Customer A finds several OTT operators offering their services at a competitive price but without content that could match the current operator's offerings. Because of the good customer experience, both Customer A and the housing cooperative plan to continue their customer journey with the current operator.

Answers, customer A:

Is your household currently ordering and/or receiving any services provided by a cable television operator?

Answer: *Yes*

Would your household change its current cable television operator if similar services were provided by other operators?

Answer: *No*

Would your household change its current cable television operator if better services were provided by other operators? Better means any matters that your household considers to be important, such as better quality of service, higher broadband speed, more content or, e.g. a more pleasant customer service.

Answer: *No*

It is what you do when things go wrong that counts

Customer B lives in an apartment building that can only use one company as its cable TV and broadband service provider. The basic services are purchased by the housing company on behalf of the residents.

Customer B is highly unsatisfied with the operator, especially when it comes to the reliability of services and customer service.

Constant breaks in broadband connectivity

Customer B has complained to the operator about frequent service outages concerning the broadband connectivity throughout the entire building. The customer service centre reacted quickly to the first contact and a field technician was send to the location. However, no reason was found for the service outages during the first visit.

Answers, customer B:

Would your household change its current cable television operator if similar services were provided by other operators?

Answer: *Yes, even if the cost of the subscription was the same.*

Please think if there have been any situations when your customer experience was unsatisfactory. If so, please select the top three categories that best describe the situations when your experience was unsatisfactory in recent years. You can also select fewer or more categories if selecting three does not describe your customer journey well enough.

Answer: *Category A: Network performance* & *Category C: Negative interactions*

What would be the best single action that an operator could take in order to improve your customer experience? In case you have already chosen another service provider, what would have been the best single action that your operator could have taken?

Answer: *Just stick to its promises and deliver the service according to the terms of the contract.*

When service breakdowns continued, Customer B repeatedly contacted the customer service centre in order to get the problem solved. It required several requests before the situation was taken under thorough inspection. Finally, the operator discovered that the network suffered from a faulty cable and an installation error. The cable leading to the building was almost cut in half, causing service breakdowns in the upstream.

Overall, it took about three months from the first repair request before the faults were discovered. The actual repair, however, was carried out without delays. Customer B feels that activity and strong determination was needed in order to get the operator to take the problem seriously.

When problems occur, customer service plays a key role

Customer B feels that the operator lost interest in fixing the connectivity problem when the reason for the outages was not discovered during the first repair visit. It was difficult to get the repair service to come again, even though the operator was able to validate that there really were problems in the connection. After discovering the faults, the operator also did not compensate the housing company or the residents for the service outages; instead, normal fees were invoiced regardless of the poor availability of the service.

Customer B feels the operator's customer service not working as expected and he would not recommend the operator to other potential customers. If the housing company could use another service provider, it would cancel the current subscription. However, Customer B gives positive feedback on how the actual repairs were finally carried out.

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P3I_Customer pre-churn analysis_0517