



Doctoral School of Management
and Business Administration

THESIS BOOK

of the Doctoral Dissertation

titled

**THE IMPACT OF SERVICE ELIMINATION ON
CUSTOMERS IN THE TELECOMMUNICATIONS SECTOR**

authored by

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Budapest, 2017

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1 FOUNDATIONS OF RESEARCH AND SIGNIFICANCE OF THE TOPIC

Service elimination is a potential tool for portfolio renewal, as it enables unlocking service firms' resources and thus, accelerates the launch of new portfolios. Due to the short life-cycles of services, they might accumulate in a firm's system very quickly, requiring the management of a relatively big service portfolio. In today's fast-paced economy, service elimination is seen as a requirement for business competitiveness and innovation; through the simplification of a business portfolio, both customer and firm value could be increased.

Despite the managerial relevance, service elimination is rather neglected in the literature, as from the 1980s onwards; practice mostly focused on service development that drove research as well the service development field. This usually resulted in very complex service portfolios, which should be simplified by eliminating existing services, thus reducing maintenance and portfolio performance-management challenges. This makes service elimination a possible area of new discovery.

Based on the literature review, the definition of service elimination used in this research is formulated: service elimination is a process by which a service firm eliminates its existing services by migrating existing customers to new service packages.

A highly relevant issue both from an academic and a practical perspective is the impact of service elimination on customers. Without systematic planning and execution, service elimination might result in customer churn. Indeed, service providers struggle with finding the best way to minimize customer churn following service elimination due to both strategic considerations and limited information about the process.

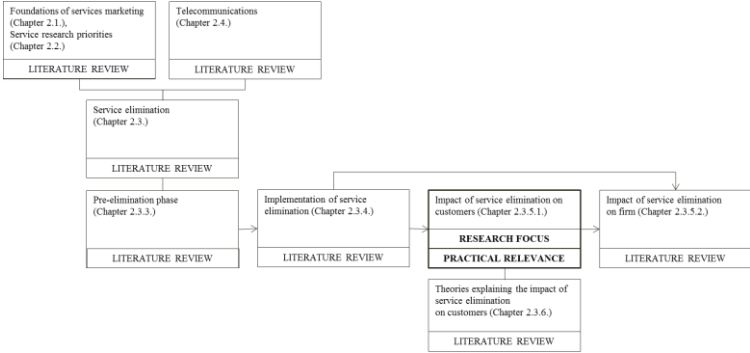
This research is positioned in the context of customer reactions to service elimination, as the service elimination process itself contains the risk of losing existing customers and revenue. The objective of this research is to understand customer reaction following service elimination, which determines the success of service elimination.

As practical relevance comes from churn reduction in the case of service elimination with a primary focus on customer satisfaction, there are basically three directions the literature takes: differences between product elimination and service elimination, service elimination (pre-elimination, implementation of service elimination, and post-elimination), and theories explaining the impact of service elimination on customers (social exchange theory, justice theory).

1.1 AIM AND STRUCTURE OF THE DISSERTATION

The aim of this dissertation is to widen the scientific research results of service elimination, and help practitioners better plan and execute the whole process (Figure 1). Three main areas include the literature review, research focus, and practical relevance. The literature review is organized to understand service elimination: the foundations of services marketing and current research trends shape the definition and relevance of service elimination. Further, as the context of the study is telecommunications, it also affects how service elimination is interpreted. Then, the rest of the figure is based on the three phases of service elimination: the pre-elimination phase that affects the implementation of service elimination, which determines the post-elimination phase including impact on customers and impact on firm. The focus of this research is the impact of service elimination on customers, which also has practical relevance. Customer reactions to service elimination determine the success of the service elimination strategy. Although it is not possible to measure the direct impacts on firm because it requires companies to conduct post-elimination reviews to assess the decrease in maintenance and development costs and revenue savings, practical relevance is obvious in both aspects of the post-elimination phase. As this is a customer perspective study, it can fill a gap in the literature and help companies in the formulation of the right service elimination strategy.

Figure 1. Aim of the dissertation



Source: own construction

1.2 SERVICE ELIMINATION LITERATURE

Service elimination was studied only by a small group of researchers (Argouslidis & McLean, 2003; Argouslidis, 2007a; Argouslidis & Baltas, 2007), and although the first studies on service elimination were published in 2001 (Argouslidis, 2001; Argouslidis & McLean, 2001a), the area is still under-researched. Even if the importance of the topic is clear in the literature (Argouslidis, 2001; Avlonitis & Argouslidis, 2012), there are many areas of service

elimination that are still uncovered, such as the post-elimination phase or customer perspective studies. To close this gap, this research aims to find empirical evidence for customer reactions on service elimination, with a primary focus on the post-elimination phase.

In the literature, product elimination and service elimination are often studied together; however, there are differences between the two concepts already defined. Avlonitis and Argouslidis (2012) provide an overview of the field, which has been restricted to service elimination only, due to these differences between product and service elimination. There are three phases of the service elimination process itself: (1) the pre-elimination phase, which defines the objectives; (2) service elimination decision-making phase, which determines the attributes of the elimination process; and (3) the post-elimination phase, which focuses on the result of the service elimination. From the service elimination literature review, it is clear that service elimination is mostly studied in the financial sector, from the firm perspective (Argouslidis, 2001; Argouslidis & McLean, 2003; Argouslidis, 2007a; Argouslidis & Baltas, 2007).

Performance outcomes are only studied in manufacturing sectors and success factors in financial service sector and multi-sector studies. Surprisingly, there is no customer perspective analysis in the service area combined with post-elimination phase, especially success-factors, which is a significant gap in the extant literature (Table 1). Only two studies were found in the product elimination field using customer perspective (Avlonitis, 1983; Homburg *et al.*, 2010). Harness (2004) draws attention to the missing empirical evidence of the customer perspective, because elimination effects are mainly studies from the firm's point of view. That is why this area is the focus of this study.

Within the post-elimination phase of service elimination, the role of strategic decision and company type were highlighted as determinants of service elimination success (Harness & Marr, 2004; Gounaris *et al.*, 2006). This is in accordance with the choice of telecommunications as a field of study: company type may account for differences in service elimination, which cannot be captured by studies only focusing on financial sector, including some multi-sector studies.

The literature review on service elimination gave the foundation for both the main topic and context of this study: customer perspective on assessing the success factors of service elimination in telecommunications.

Table 1. Summary of service elimination literature

BROAD TOPICS	FIRM PERSPECTIVE	
	FINANCIAL SERVICES	OTHER OR MULTI-SECTOR
General description of service elimination practice	(Argouslidis & McLean, 2001a)	
1. Pre-elimination decision-making phase		
Pursued objectives	(Argouslidis & McLean, 2001b) (Argouslidis P. , 2006)	
Precipitating circumstances	(Harness <i>et al.</i> , 1998) (Argouslidis, 2007b)	
2. Service elimination decision-making process		
Identification of candidates for elimination	(Argouslidis & McLean, 2003) (Argouslidis & McLean, 2004)	
Analysis and revitalization/modification	(Argouslidis & McLean, 2004)	
Evaluation and decision-reaching	(Harness D. R., 2004) (Argouslidis, 2007a)	
Implementation	(Harness & Marr, 2001) (Argouslidis, 2004)	
3. Post-elimination phase		
Performance outcomes		
Success factors	(Harness & Marr, 2004)	(Gounaris <i>et al.</i> , 2006)
4. Organizational and structural issues		
Participation		
Decision-making structure (i.e. formalization)	(Argouslidis & Baltas, 2007)	
Decision speed	(Argouslidis, 2008)	
5. Historical, regulatory and economic aspects of service exits		(Chisholm & Norman, 2006)

Source: own construction based on Avlonitis & Argouslidis (2012)

The literature review showed that the methodology of the studies is mostly a mixed qualitative-quantitative type. Argouslidis and McLean (2003) used the combination of qualitative and quantitative research: in-depth interviews and mail surveys. The article presents qualitative and quantitative empirical evidence on (1) the way in which British financial institutions analyze the deviant performance of financial services, which have been identified as candidates for elimination; and (2) the remedial actions that they consider to restore a deviant performance, when possible and feasible. Later studies in the financial sector (Kent & Argouslidis, 2005; Argouslidis, 2007a) applied a similar methodology, exploring formalization in financial institutions' product line pruning decisions, and maintaining a link between service elimination decision-making and the structural characteristics of organizational decision-making. Service elimination decision and implementation is also key in the work of Gounaris, Avlonitis, and Papastathopoulou (Gounaris *et al.*, 2006).

Although post-elimination success factors are identified as a gap in the service elimination literature, the relevance of the topic is highly dependent on a contractual setting. When there is no contract between the customer and the service company, customers can be easily migrated to other service packages after the current service is no longer available. Contract-based service research shows that the contract itself changes the whole relationship; customer reactions in particular. Therefore, this research focuses on the contract-based relationships within post-elimination phase of service elimination.

2 APPLIED METHODOLOGY

After discussing main concepts related to the research and gaps in the literature, the rationale behind the conceptual framework and research questions are explained, followed by hypotheses and research methodology that consists of three studies.

2.1 CONCEPTUAL FRAMEWORK

Based on the literature review a conceptual framework of service elimination is proposed, which could be used as the basis of research methodology formulation. The literature review concluded that service elimination has three main phases: causes, process indicators and consequences of service elimination.

A broader conceptual framework is used to have an overview of the antecedents, process and impact of service elimination. Antecedents of service elimination include causes (e.g. sales drop, low margin rates, new product portfolio launch, shorter service life-cycles, mother company decision, etc.), and triggers (e.g. technology, global trends). Antecedents affect service elimination characteristics (e.g. service elimination process, strategic level service elimination, customer handling, economic and psychological costs, enforcement of justice elements, etc.) that have an impact on both customer (churn, satisfaction, loyalty, affective and calculative commitment, WOM) and firm (customer management, maintenance and development costs, management and sales effort, resource management, service portfolio performance). Barriers (e.g. legislative environment, government regulations, refurbishment of out-dated services, long-term contracts) moderate the relationship between antecedents of service elimination and service elimination characteristics.

Impact on customers and firm have a key role in service elimination research, because these are the areas, where the success of service elimination can be principally measured. In our research the focus is on the impact of service elimination on customers.

As it was emphasized by the definition of service elimination, full elimination is measured, not partial, so success is defined as the ratio of customers staying with the company after elimination.

2.2 CASE STUDY RESULTS: QUALITATIVE RESEARCH

There are only a few empirical studies in the area of customer reaction to service elimination, therefore, before conducting an empirical analysis, a case study was designed to reveal the main aspects of the topic.

The case study showed that there is a need from practice to reduce customer churn in case of service elimination, which requires service elimination processes to be better adapted to customer's needs and an improved model of determining the customer's suggested service package after elimination is also needed.

So the case study has three main implications:

- Success-factors of service elimination are relevant to study from a managerial perspective;
- Within success-factors, there is a need from practice to design a better model for determining the customer's new service package that is leading to decreased customer churn;
- Service elimination process needs to be better adapted to customer's needs and treated more as part of retention in order to reduce customer churn.

As the case study highlighted, the topic is relevant for further analysis, especially regarding customer retention and churn. Study 1-3 were planned accordingly.

The case study is limited in a sense that it consisted of only three in-depth interviews at one Hungarian telecommunications operator, which could be extended with more insights from other operators. However insights on causes and process of service elimination were gained that form the basis of further research.

2.3 RESEARCH QUESTIONS AND HYPOTHESES

Based on the literature review and case study results the following research questions were formulated:

1. How can social exchange theory be applied to explain customer reaction (churn, satisfaction, loyalty, affective and calculative commitment, WOM) following service elimination?

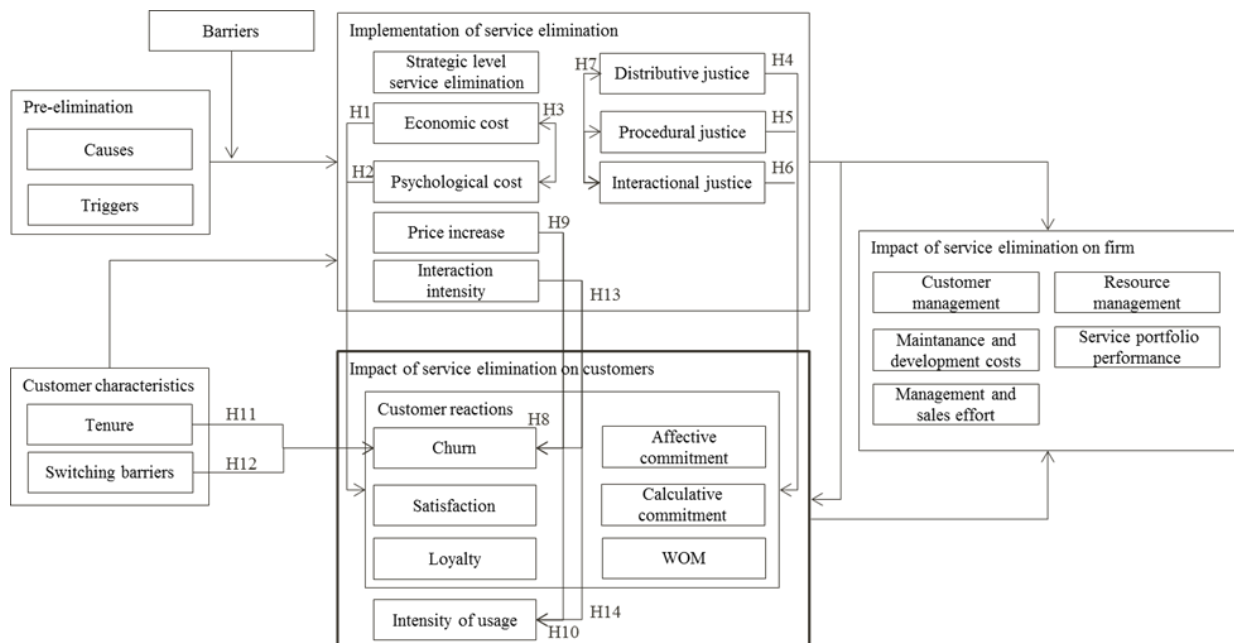
2. How can justice theory be applied to explain customer reaction (churn, satisfaction, loyalty, affective and calculative commitment, WOM) following service elimination?
3. Is churn higher in case of service elimination compared to normal churn rates?
4. How post-elimination churn is influenced by service elimination characteristics and customer characteristics?
5. How post-elimination usage intensity is influenced by service elimination characteristics and customer characteristics?

As each of our research questions requires different methodology, our research was designed accordingly:

- Research Question 1-2: quantitative methodology- experimental design based on scenarios using customer survey (Study 1 and Study 2);
- Research Question 3-5: quantitative methodology- database analysis using Heckman sample selection (Study 3).

The conceptual framework is extended with research hypotheses in Figure 2:

Figure 2. Conceptual Framework with research hypotheses of service elimination



Source: own construction

The research hypotheses are summarized in Table 2:

Table 2. Research hypotheses

STUDY 1	STUDY 2	STUDY 3
H1: Economic cost increases churn, WOM, and complaining, and decreases satisfaction, loyalty, and affective and calculative commitment in case of service elimination.	H4: Distributive justice decreases churn, and increases satisfaction and loyalty in case of service elimination.	H8: Churn rate during service elimination is higher than normal churn rate.
H2: Psychological cost increases churn, WOM, and complaining, and decreases satisfaction, loyalty, and affective and calculative commitment in case of service elimination.	H5: Procedural justice decreases churn, and increases satisfaction and loyalty in case of service elimination.	H9: Price increase is associated with a lower propensity to retain customers during service elimination compared to price decrease.
H3: There will be interaction effects for economic and psychological costs in case of service elimination.	H6: Interactional justice decreases churn, and increases satisfaction and loyalty in case of service elimination.	H10: Price increase is associated with a heightened propensity of higher usage after service elimination compared to price decrease.
	H7: There will be interaction effects for distributive, procedural, and interactional justice.	H11: Longer relationship tenure with a service provider is associated with a heightened propensity to retain the customer during service elimination compared to a shorter relationship tenure.
		H12: Switching barriers are associated with a heightened propensity to retain the customer during service elimination compared to no switching barriers present.
		H13: A higher level of interaction intensity is associated with a heightened propensity to retain customer during service elimination compared to a lower level of interaction intensity.
		H14: A higher level of interaction intensity is associated with a heightened propensity of lower usage after service elimination compared to a lower level of interaction intensity.

Source: own construction

3 SCIENTIFIC RESULTS OF THE THESIS

3.1 STUDY 1: EXPERIMENTAL DESIGN: CUSTOMER REACTIONS TO SERVICE ELIMINATION AFFECTING SERVICE ELIMINATION OUTCOME BASED ON SOCIAL EXCHANGE THEORY

General Linear Model¹ (GLM) (Field, 2003) with SPSS software (Mitev & Sajtos, 2007) was used to assess the effect of economic and psychological cost on churn, satisfaction, loyalty, commitment and WOM.

In case of the economic cost all dependent variables behave as expected based on the hypothesis: economic cost increases churn and WOM, decreases satisfaction, loyalty, affective and calculative commitment. So H1 is supported. Psychological cost decreases satisfaction, loyalty and affective commitment as expected. Churn, calculative commitment and WOM are not significant here. So H2 is partially supported.

We found that although both economic and psychological costs individually decrease customer satisfaction, loyalty and commitment, interactions of the variables behaved differently. In case of economic cost, psychological cost (customer is not contacted by the operator) does not have an effect on satisfaction (satisfaction levels are low). Whereas in the absence of economic cost, the absence of psychological cost (customer is contacted by the operator) increases satisfaction, according to a priori expectations. Loyalty and affective commitment follow a similar pattern. In case of churn however, psychological cost (customer is not contacted by the operator) increases churn in the absence of economic cost, whereas the absence of psychological cost (customer is contacted by the operator) increases churn in the presence of economic cost.

This second interaction also supports the idea of complexity issue in the offers, because it means that even though customers are offered a better service package than current one after service elimination, if they are not contacted by phone as well by the operator, they cannot recognize the value added of the new offer. So interaction hypotheses were supported: the interaction between the two variables is clear, and only economic cost option gave contradictory results in terms of interactions with psychological cost, which means that economic cost has stronger effect on customer reactions than psychological cost in case of service elimination.

These results provide support for H1 and H3, and partial support for H2.

¹ A significance level of 5% is used throughout the analysis.

As Study 1 concluded, practitioners need to be aware that psychological cost might have a more significant role than expected: the form of contact with the customer has a stronger effect on retention than the quality of the offer itself. Perhaps offers only in written form are not clear for the customer, and as such, verbal notification raises their attention. As a result, in case of a least favorable offer, the customer is more likely to switch operators.

The role of psychological cost is emphasized here: with least favorable offers no verbal communication before elimination might lead to lower customer churn, and with more favorable offers to higher customer churn. It is not just the quality of the offer that determines customer retention. Surprisingly, the verbal interaction with the customer has different effects depending on the quality of the new offer: a more favorable new offer should be emphasized more, supposing that the customer does not recognize the benefits of the new conditions. Quite on the contrary, it might be supposed that customers do not notice the exact new conditions of a least favorable offer, but if the operator explains it, they might leave. In sum, interaction needs to be handled with caution: the quality of the new offer influences the effect of psychological cost on customers.

3.2 STUDY 2: EXPERIMENTAL DESIGN: CUSTOMER REACTIONS TO SERVICE ELIMINATION AFFECTING SERVICE ELIMINATION OUTCOME BASED ON JUSTICE THEORY

General Linear Model² (GLM) (Field, 2003) with SPSS software (Mitev & Sajtos, 2007) was used to assess the effect of distributive, procedural and interactional justice on churn, satisfaction and loyalty.

Hypotheses were partially supported: in terms of main effects, distributive justice and interactional justice reduces churn, and increases satisfaction and loyalty as expected, only procedural justice does not have an effect. What regards interactions, interactional justice can be perceived as a complementary factor in terms of procedural justice, noting that an altogether higher satisfaction can be achieved by a customer-initiated call. Similarly, procedural justice can partly compensate the absence of distributive justice, meaning that a least favorable offer's effect on churn and loyalty can be reduced by a simple, smooth procedure of service elimination.

These results provide support for H4 and H6, no support for H5 and partial support for H7.

² A significance level of 5% is used throughout the analysis.

As Study 2 concluded, procedural justice is not as clear as one might think: a call initiated by the operator might have a worsening effect regarding customer perceptions on service elimination, because maybe those, who experienced already a negative experience during a call center call (e.g. long waiting time, complex IVR, etc.), could value the proactivity of the operator. Otherwise, a received call can be as burdensome for the customer in comparison with an initiated one due to loss of perceived control, disturbance of the customer's daily schedule, inappropriate timing, etc. Second, interactions between the elements of justice distributive justice always have an impact, but procedural justice determines its interactions with the other two elements.

3.3 STUDY 3: DATABASE ANALYSIS: CUSTOMER AND SERVICE ELIMINATION CHARACTERISTICS AFFECTING SERVICE ELIMINATION OUTCOME AND INTENSITY OF USAGE

In Study 3 it was found that high customer churn in case of service elimination how could be decreased, and what effects does the process have on customer behavior. As practical evidence shows, service elimination involves high risk for decision-makers due to the high churn involved with the process.

The procedure has a sample selection bias: the model assumes that those with a higher phone usage have a higher propensity to churn during service elimination, and those who have lower usage, stay with the service provider. This is a selection bias that the Heckman selection model can correct, which is the primary reason for choosing this method in our research. The strong significance of the λ shows that there is a sample selection bias, which validates the choice of the Heckman selection model. As the Wald test is highly significant, it verifies the significance of the model.

The selected methodology, Heckman sample selection is available in R using the `sampleselection` package, and with `heckman` command in Stata. Stata 13 was used for the analysis.

The first stage Heckman results³ show that a smaller new monthly fee after elimination, time of contract and interaction intensity increase the probability of staying with the company after elimination confirming H9, H11 and H13, where switching barrier is not significant, rejecting H12. Among the covariates it can be concluded that usage intensity before

³ A significance level of 1% is used throughout the analysis.

elimination increases the probability of staying with the company after elimination, whereas satisfaction is not significant.

In the second stage it is observed, whether the elimination has any effect on usage behavior by those, who stayed with the operator. The results show that a higher new monthly fee after elimination and the usage intensity before the elimination increase the minutes spent talking after elimination, where interaction intensity and satisfaction are not significant, rejecting H14. This means that an evidence for H10 was found, as price increase (higher new monthly fee) increases usage after service elimination.

It is an important finding for decision-makers that customer churn during service elimination can be decreased by the appropriate pricing of the new offer, because due to low switching costs, the higher monthly fee offered compared to current service package might motivate customers to accept competitor offers. Besides this, new customers, and customers who contact the operator less frequently or are less contacted by the operator are considered to be endangered groups regarding service elimination.

3.4 SUMMARY OF RESEARCH HYPOTHESES

Among the 14 hypotheses, 9 can be accepted without any limitations, 2 can be partially accepted, and 3 are rejected.

The quality of the offer was measured in three ways among the three studies. Economic cost in Study 1, distributive justice in Study 2, and price increase in Study 3 all capture whether the service package after elimination has a more favorable monthly fee. The conclusion arrived at is that a more favorable offer reduces churn and WOM and increases satisfaction, loyalty, and affective and calculative commitment.

Similarly, the quality of interaction was also similar in all three studies: psychological cost in Study 1, interactional justice in Study 2, and interaction intensity in Study 3. All studies confirmed that the interaction between the service provider and the customer reduces churn and WOM, and increases satisfaction, loyalty, and affective and calculative commitment. Its effect on usage behavior could not be confirmed though; probably it is more of an indirect relationship, influenced by other factors not measured by this research.

The hypothesis referring to the effect of psychological cost, was accepted in the case of satisfaction, loyalty, and affective commitment; it was rejected in the case of churn and WOM. Therefore, the unexpectedness related to service elimination has an influence on customer perceptions, but does not affect churn and WOM intentions.

Similarly, the interactions between justice elements (distributive, procedural, and interactional justice) was accepted in the case of distributive and procedural justice interaction for churn and satisfaction, and in the case of procedural and interactional justice interaction for satisfaction. This means that on the one hand procedural justice can compensate the absence of distributive justice, and on the other hand interactional justice the absence of procedural justice.

The first hypothesis rejected refers to procedural justice, which can be also due to operationalization issues. Customers cannot perceive the difference between an incoming call from the operator or a situation where their uncertainty drives them to contact the operator. It is still surprising, however, that a long waiting time and multiple attempts to reach the operator do not have significant effect on levels of churn, satisfaction, or loyalty. As the literature suggests, timeliness, responsiveness, and convenience express the main elements of procedural justice used to form the scenarios. Still, the effect is not significant, which means that in the context of service elimination, the formulation of procedural justice should be altered to a more specific definition: in the case of service elimination, it can express the inconvenience, energy, and time throughout the whole service elimination process. It should not be restricted to the call only. This might be an area for further research.

Second, surprisingly, the operator’s practice of using switching barriers as a tool to reduce customer churn was rejected, which is probably due to some measurement problems in the database. The database only contains data of whether the two-year in-contact period has ended, which does not incorporate the information of actual costs related to an in-contract customer churn. Data on all costs related to switching would be necessary to test this hypothesis, which could be a future phase of this research. Collaboration between operators and universities would be required to acquire these data.

Third, the hypothesis referring to the effect of interaction intensity on post-elimination usage intensity was rejected, but as empirical results in the literature are not unified in this sense, this result can be considered to be an area of further research.

The results of the hypotheses are summarized in Table 3.

Table 3. Summary of research hypotheses

Hypothesis	Result	Reference
H1: Economic cost increases churn, WOM, and complaining, and decreases satisfaction, loyalty, and affective and calculative commitment in case of service elimination.	Accept	Study 1

H2: Psychological cost increases churn, WOM, and complaining, and decreases satisfaction, loyalty, and affective and calculative commitment in case of service elimination.	Partially accept	Study 1
H3: There will be interaction effects for economic and psychological costs in case of service elimination.	Accept	Study 1
H4: Distributive justice decreases churn, and increases satisfaction and loyalty in case of service elimination.	Accept	Study 2
H5: Procedural justice decreases churn, and increases satisfaction and loyalty in case of service elimination.	Reject	Study 2
H6: Interactional justice decreases churn, and increases satisfaction and loyalty in case of service elimination.	Accept	Study 2
H7: There will be interaction effects for distributive, procedural, and interactional justice in case of service elimination.	Partially accept	Study 2
H8: Churn rate during service elimination is higher than normal churn rate.	Accept	Study 3
H9: Price increase is associated with a lower propensity to retain customers during service elimination compared to price decrease.	Accept	Study 3
H10: Price increase is associated with a heightened propensity of higher usage after service elimination compared to price decrease.	Accept	Study 3
H11: Longer relationship tenure with a service provider is associated with a heightened propensity to retain the customer during service elimination compared to a shorter relationship tenure.	Accept	Study 3
H12: Switching barriers are associated with a heightened propensity to retain the customer during service elimination compared to no switching barriers present.	Reject	Study 3
H13: A higher level of interaction intensity is associated with a heightened propensity to retain customer during service elimination compared to a lower level of interaction intensity.	Accept	Study 3
H14: A higher level of interaction intensity is associated with a heightened propensity of lower usage after service elimination compared to a lower level of interaction intensity.	Reject	Study 3

Source: own construction

3.5 THEORETICAL CONTRIBUTION OF THE RESEARCH

The significance of the research has three main parts. First of all, the analysis of the post-elimination phase from the customer perspective contributes to the service elimination literature. Success factors in the area of service elimination were only examined in financial or multi-sector studies; on the other hand, the performance outcome was assessed in

manufacturing sectors only. Hence, the customer perspective analysis of services in the service elimination literature is a significant gap (Table 4.). Studies focusing on the customer assess product elimination only Avlonitis, 1983; Homburg *et al.*, 2010). Missing empirical evidence in the area is well-known (Harness, 2004), which determines the focus of this research.

Second, using social exchange theory and justice theory, insights into the process were gained, which altogether should be better adapted to the customers' needs. Direct communication can enhance the outcome of service elimination, if the customer shows interest in this, and they are not contacted by the operator unexpectedly. The research can be considered as a development of justice theory, because it extends its application from service failure to the case of service elimination. To the author's knowledge, social exchange theory and justice theory had not yet been applied in a service elimination context to explain customer reactions. Study 1 reveals customer reactions during the service elimination process using an experimental design based on social exchange theory. The results altogether conclude the churn and WOM reducing, and satisfaction, loyalty, and commitment (affective and calculative commitment) increasing effect of a favorable offer (no economic cost is present), where the unexpectedness of the notification (psychological cost) has a similar effect on customer reaction. The interactions between economic and psychological costs highlight the enhanced role of the notification: depending on the quality of the offer, the psychological cost has a different effect. This phenomenon highly correlates with the complexity of offers, because customers usually do not comprehend a written, legal notice about service elimination. A direct interaction (call notification) specifying the real content of the written notice is needed. Considering this, it can explain how this direct interaction can result in higher churn in the case of a least favorable offer, whereas it has the opposite effect in the case of a more favorable offer, it contributes to customer retention. Study 2 also uses experimental design, but the understanding of customer reactions is based on justice theory. Results show that the elements of justice (distributive, procedural, and interactional justice) influence customer reactions as costs do, but the interactions in this case revealed the partial compensating effect of procedural justice on distributive justice, and interactional justice on procedural justice.

Third, the literature does not handle the effect of service elimination on customers in such detail, but this basically determines the success of the process. Independent of service elimination, churn is frequently applied as a success indicator in general situations, and used

under these special circumstances in this research. Thus, service elimination can be considered as a special circumstance of the general churn modeling. It can contribute to the understanding of churn. The main success factor of service elimination is the post-elimination churn, which highly correlates with the quality of the new offer and the quality and timing of interaction, according to the results of Studies 1 and 2.

Study 3 principally determined the main success indicators of the service elimination process, which revealed the significance of tenure and usage intensity, among other factors identified in Studies 1 and 2 (such as the quality of the offer and interaction intensity). As a result, groups threatened during the service elimination process in terms of churn are the new customers and/or light users.

The results confirm the churn-reducing effect of price decrease and tenure described in the general churn literature. With regard to interaction intensity and usage intensity, however, the churn literature is quite dispersed and in this sense the results contribute to widen the pool of empirical results.

The diverse results in the literature regarding these variables can be because the service life cycle primarily determines interaction intensity. The introduction and elimination phases of a service may require a more intense interaction; during other phases of the life cycle the customer does not necessarily need this. Opinions are divided on the timing of a more intense interaction. The results of Study 3 confirm the view that the elimination phase requires a more intense interaction between the service provider and the customer. Otherwise, usage intensity is an even more debated area in the churn literature. The results support the churn-reducing effect of usage intensity. Besides this, price increase has a usage-intensifying role, which is also a less studied area in churn literature.

Fourth, service elimination can be considered essential in service portfolio innovation and management both in terms of its academic and practical relevance. Service innovation and service elimination are both part of service range management (Argouslidis, 2001), the latter of which is less represented in such context. The elimination of existing services can help to accelerate service innovation, the significance of which is important to emphasize. Thus, it is crucial that the research has practical implications as well, regarding the implementation of insights obtained through customer reactions into the service elimination strategy. The quality of interaction with the customer and its timing can be considered of highlighted importance.

3.6 PRACTICAL RELEVANCE OF THE RESEARCH

3.6.1 SERVICE ELIMINATION CHURN CAN BE REDUCED BY A MORE FAVORABLE OFFER AND GOOD QUALITY OF INTERACTION

Two important churn indicators were identified in this research in all three studies: a least favorable offer after elimination and missing or poor quality (including indirect communication, or direct communication forms without expressing respect and care for the customer) interaction between the operator and the customer.

A least favorable offer was shown to have high levels of churn, which is a challenge for operators in practice too, as sometimes eliminated service packages have some special discounts for the customer other service packages of the operator do not include. In these cases, churn is unavoidable, especially if competitors have something similar to the current service package. The question is, how can this perception of a least favorable offer (if the operator does not have an offer with similar discounts as the current one) altered? With interactions between the quality of the offer and direct communication to notify the customer about changes and explain new offers, it turned out that in the case of a least favorable offer direct communication only highlights the drawbacks of the offer, thus leading to increased churn, whereas in the case of more favorable offers it was found to have a churn-decreasing effect. In general, customers do not understand the whole process without direct explanation from the operator; the legal requirement of sending a letter is not enough. On the other hand, the quality of interaction is also crucial: call center operators should show respect for and have patience with the customer, and help them find a better alternative.

Further, churn predictors were identified in Study 3: customer's tenure and usage intensity before elimination. Both express the customer's engagement with the operator; as with a longer relationship and intensive usage it becomes stronger. So groups threatened during service elimination are the new customers, customers informed before service elimination only indirectly, and in terms of usage, light users.

3.6.2 A LEAST FAVORABLE OFFER IN CASE OF SERVICE ELIMINATION CAN BE PARTIALLY COMPENSATED BY THE QUALITY OF INTERACTION PERCEIVED DURING THE PROCESS

Studies 1 and 2 highlighted interesting aspects of interactions between the elements of justice.

Study 1 pointed out that in the case of a least favorable offer (the monthly fee of the new service following service elimination is higher than the customer's current monthly fee), notifying the customer by phone before the service elimination increases the probability of

churn. This is probably due to the customer's limited knowledge of and interest in the exact conditions of the service, and thus, such a call has an attention-raising role, which can be favorable in the case of a more favorable offer, but in the case of a least favorable offer it is counterproductive. Study 2 stresses first the role of perceived burdens during the whole service elimination process, as the timeliness, convenience, perceived fairness, or waiting time, and the responsiveness of the service provider during the process can partially compensate the effects of a least favorable offer on churn and satisfaction. An important addition to the definition of procedural justice in the case of service elimination would be to extend the perceived burdens to the whole process, instead of the retention call only. Thus, service providers may pay more attention to the conditions of the whole process, starting from notifying the customer about the change, until the change of service package.

Second, Study 2 also highlighted the importance of perceived control, as higher satisfaction levels can be achieved with showing courtesy and respect toward the customer, if the customer initiated the call. Even if the customer is interested in knowing more about service elimination, an inappropriate timing of a call might disturb their daily routine. A good quality interaction cannot compensate for the negative feelings related to loss of perceived control. An altogether higher satisfaction can be achieved by a customer-initiated call. Appointment booking could provide a solution for this issue.

In sum, an unencumbered service elimination process with good quality interaction between the service provider and the customer, the timing of the call, and the customer's interest in service elimination (i.e., the customer is the one deciding to directly interact with the service provider) can reduce the negative customer perceptions related to an unfavorable offer.

3.6.3 PRICE INCREASE RAISES THE CUSTOMER'S USAGE INTENSITY AFTER ELIMINATION

Study 3 had some implications regarding the customer's usage intensity after elimination besides identifying churn indicators, which is influenced by two factors, supposing they stay with the company after elimination. Price increase and usage intensity before elimination increase the usage intensity after elimination.

Price increase means that the customer has a higher monthly service fee package than before the service elimination, and they are using this service more intensively than before.

The explanation for this is linked to the quality of interaction. As already seen, even in the case of a least favorable offer, the interaction has an attention-raising role for the customer. But, if the customer contacts the operator, the quality of this direct communication still can

improve perceptions on satisfaction and loyalty. So those receiving a least favorable offer, but staying with the company, probably had several conversations with the operator about new conditions, and thus are more aware of the changes. The higher monthly fee is probably not the main factor influencing the decision to stay with the operator; this is rather the result of a price-value ratio consideration. Heavy users also tend to stay more with the company, which altogether reflects the acceptance of higher prices, if it is compensated with services valuable for the customer.

3.7 *MANAGERIAL IMPLICATIONS*

Service elimination enables the simplification of the business portfolio that is a requirement for a new service portfolio launch. Due to the limited number of elimination projects available in the past, managers struggle to find solutions for handling the unusually high churn rates in the case of service elimination.

Besides its academic relevance, this research contributes to service elimination practice, by suggesting methods to handle negative customer reaction resulting in churn. As highlighted in the research methodology, service elimination is a complex area, where both the planning and execution are crucial in terms of the success of service elimination. Perceived costs for the customer and the complexity of offers determine satisfaction, loyalty, commitment, and WOM that have an effect on customer retention. So, the type of communication and the selection of customer base contacted directly by the service firm, determines the success of service elimination.

The practical relevance of the topic is also confirmed by the case study: telecommunication operators are not handling service elimination on a strategic level and this makes service development processes less effective. There is a need for solutions resulting in decreased customer churn in the case of service elimination. To support this, the service elimination process needs to be better adapted to the customer's needs and treated more as part of retention in order to reduce customer churn.

From a managerial perspective, this research project can contribute to solving current service-elimination-related problems in companies: as service elimination is a rather complex area, where planning and execution are key in terms of the success of service elimination. Costs for the customer and the complexity of offers determine satisfaction, loyalty, commitment and WOM that have an overall influence on customer retention. Thus the way of communication and the direct interaction with the selected customer base determines the success of service elimination.

3.8 LIMITATIONS OF THE RESEARCH AND FUTURE RESEARCH DIRECTIONS

There are some limitations of this research. The case study used three in-depth interviews from one telecommunications operator that could be extended by other interviewees from other operators, and from other countries in the CEE region.

Second, there are also limitations due to the methodology of experimental design, which cannot measure real service elimination behavior, thus it is only able to test imagined reactions to service elimination. Still, most effects could be captured in the case of service elimination as described in the literature in other settings (such as service failure), except the effect of procedural justice on behavioral variables (such as churn and loyalty). Thus, further research should step forward in terms of operationalization of variables. First of all, there is a need for a valid scale formulation of psychological cost. Because of missing empirical evidence, a psychological cost focusing on the unexpectedness of service elimination and interactions during the process was designed; there could be better ways to measure these costs. Similarly, procedural justice is also different in a service elimination setting than in other contexts, and thus the general descriptions of procedural justice should be tailored to the whole service elimination process.

Third, while database analysis can capture data on real service elimination behavior, there were several issues related to data quality. Due to missing data, price increase was limited to changes in monthly fee; however, the total costs for the customer could modify the effects of service elimination. The insignificance of switching barriers is not accordance with literature and practice. This could be due to limited data on switching costs, because in-contract status is not able to capture the switching barrier as a whole. Also, data on competitive prices of the Hungarian telecommunications market are also missing from the database and these could support the explanation of churn indicators.

The internal generalizability of the research is ensured by using random sampling and the use of manipulation checks. Although telecommunications was chosen because of its adequate characteristics for service elimination analysis, the external validity could be increased by including other sectors. Service elimination is analyzed in the telecommunications sector, and only in Hungary. Further plans include the broader ICT sector analysis in an international environment, which would be the next step toward an overall view of the relationship between service elimination and customer retention.

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