

**THE IDENTIFICATION OF FACTORS  
THAT INFLUENCE ONLINE MICROPAYMENT USE  
IN THE NEWS INDUSTRY IN SWITZERLAND**

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## ABSTRACT

Micropayments have experienced a significant growth in today's everyday life. Surprisingly, the idea of using small amounts for payment of news is not among the most frequently-used payment modalities in the newspaper industry, particularly in innovative countries such as Switzerland. Apparently, there is still a knowledge gap regarding the manner in which consumers perceive online micropayments to pay for news. This affects the development of micropayment strategies and profit models implemented by publishers, who have experienced a rapid decline in circulation revenues due to other forms of perceived 'free' news, such as the internet.

At the heart of this issue, one challenging area of research and business interest is to identify factors that consumers consider when deciding to make small purchases. In order to address this, this thesis adopts a primarily positivist philosophy utilising a mixed-methods approach to address the research question: 'What are the factors that influence consumers' use of online micropayments in the Swiss newspaper industry?' Moreover, the study examines how various attributes add to the perception of usefulness and ease of use of such acceptance factors, as well as the degree to which they contribute to the purchasing intent of small payments for online news.

A conceptual model based on the Technology Acceptance Model including a set of external variables comprising system characteristics and individual differences was used to structure these influences and analysed using Structural Equation Modelling. Nine industry experts were used to identify additional influencing factors, a pilot study with business experts was used to verify the basic model and methodology and the model was evaluated using Partial Least Squares in the full-scale main study of 262 respondents. Finally, a validation study of eight academic specialists and business professionals enriched the research findings and acted as triangulation to strengthen the results.

The results indicate that micropayments indeed play an important role for digital news in Switzerland, embedded in the application of system characteristics. Five concrete system characteristics — compatibility, later payment, single payment platform, mobility and convenience — are found to be positively and significantly linked to the perceived usefulness, with the latter two also showing a strong significant effect on perceived ease of use. Furthermore, it is found that attitude towards the use of micropayments has a strong positive relationship with the intention to use micropayments.

The implication of the research outcomes provides strong potential for the practical proposition of micropayment services in the news industry and identifies future directions for creating appropriate strategies for users paying in small amounts.

No prior study is known to have been conducted to empirically test behavioural factors that influence the consumer use of micropayments in the news industry, specifically in the Swiss market. Hence, several noteworthy contributions to the literature and to theory were gained from this study, particularly determinants that drive the use of micropayments for digital news. One major contribution is the narrowing down of the gaps in former research investigative factors between micropayments and mobile payment acceptance. Furthermore, the topic of micropayments as an emerging business model for newspaper organisations which can monetise digital news to sustain profitability has been addressed.

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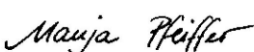
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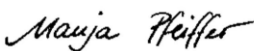
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# TABLE OF CONTENTS

<b>CHAPTER 1: INTRODUCTION</b> .....	<b>1</b>
1.1 Context of the study .....	1
1.2 Importance of the study .....	5
1.3 Intended contribution .....	7
1.4 Research question, aim and objectives .....	9
1.4.1 Research question .....	9
1.4.2 Research aim.....	9
1.4.3 Research objectives .....	9
1.5 Outline of the thesis.....	11
<b>CHAPTER 2: LITERATURE REVIEW</b> .....	<b>15</b>
2.1 Introduction .....	15
2.2 Newspapers and the news industry .....	17
2.2.1 Printed newspapers .....	17
2.2.2 Digital newspapers and online news.....	18
2.3 Swiss newspaper market .....	19
2.3.1 The Swiss media system .....	19
2.3.2 The Swiss news industry .....	20
2.4 Value chain of newspapers .....	22
2.4.1 Introduction to value chains.....	22
2.4.2 Traditional newspaper value chain .....	23
2.4.3 Digital news value chain.....	25
2.5 Business models .....	26
2.5.1 The context of business models .....	26
2.5.2 Definitions of business models .....	27
2.5.3 Changing business models for newspapers .....	28
2.5.4 Business models for digital news .....	30
2.6 Micropayments .....	31
2.6.1 Definition of micropayments .....	31
2.6.2 Micropayments for digital news .....	32
2.6.3 Types of newspaper micropayments .....	33
2.6.4 Micropayment amount.....	34
2.6.5 Scientific views on micropayments .....	35
2.7 Consumer perspectives.....	38

2.7.1	Consumer perspective towards micropayments .....	39
2.7.2	Consumer attitudes towards mobile payments .....	40
2.8	Antecedents of the research framework .....	42
2.8.1	Intention to use .....	42
2.8.2	Attitude towards the use .....	42
2.8.3	Perceived usefulness .....	43
2.8.4	Perceived ease of use .....	43
2.8.5	System characteristics .....	44
2.8.5.1	Mobility .....	45
2.8.5.2	Compatibility .....	45
2.8.5.3	Convenience .....	46
2.8.6	Individual differences .....	47
2.8.6.1	Innovativeness .....	48
2.8.6.2	Knowledge of micropayments .....	48
2.9	Literature summary .....	49
<b>CHAPTER 3: LITERATURE SYNTHESIS .....</b>		<b>52</b>
3.1	Derivation of original antecedents and moderating variable .....	52
3.2	Derivation of external variables .....	53
3.2.1	Derivation of system characteristics .....	53
3.2.2	Derivation of individual characteristics .....	55
3.3	Conceptual model .....	56
3.4	Summary .....	59
<b>CHAPTER 4: METHODOLOGY .....</b>		<b>63</b>
4.1	Research paradigms .....	63
4.1.1	Positivism .....	63
4.1.2	Phenomenology .....	64
4.2	Research paradigm applied to this research .....	66
4.3	Research approach .....	66
4.4	Research design .....	67
4.4.1	Research strategies .....	67
4.4.2	Methodological choice .....	69
4.4.3	Time horizon .....	70
4.5	Data collection .....	71
4.5.1	Qualitative and quantitative techniques .....	71
4.5.2	Data collection techniques for this research .....	72

4.5.3	Specific methods for data collection.....	74
4.5.4	Design and construction of data collection methods .....	75
4.6	Sample strategy and size .....	80
4.7	Validity, reliability and transferability .....	85
4.8	Data analysis.....	86
4.8.1	Constant comparative method .....	86
4.8.2	Structural Equation Modelling .....	87
4.9	Methodology process .....	88
4.10	Pilot study.....	89
4.11	Accessibility .....	92
4.12	Research ethics .....	93
4.13	Conclusion.....	94
<b>CHAPTER 5: RESULTS.....</b>		<b>95</b>
5.1	Pilot study.....	95
5.1.1	Introduction.....	95
5.1.2	Subject details .....	95
5.1.3	Data collection process .....	96
5.1.4	Data analysis method .....	98
5.1.5	Results: factor detection .....	98
5.1.6	Pilot study synthesis .....	102
5.1.7	Conclusion .....	104
5.2	Main study: interview stage one.....	104
5.2.1	Introduction.....	104
5.2.2	Subject details .....	105
5.2.3	Interview process .....	106
5.2.4	Quantifying the interview material .....	106
5.2.5	Analysis process .....	109
5.2.6	Descriptions of system characteristics .....	112
5.2.6.1	Mobility.....	112
5.2.6.2	Convenience.....	114
5.2.6.3	Later payment.....	116
5.2.6.4	Single payment platform .....	117
5.2.7	Descriptions of individual differences.....	119
5.2.7.1	Innovativeness.....	119
5.2.7.2	Micropayment knowledge.....	120



5.2.7.3	Perceived trust.....	121
5.2.7.4	Perceived content relevance.....	123
5.2.8	Syntheses of findings.....	125
5.2.9	Alpha 1 model.....	127
5.3	Main study: survey stage two.....	128
5.3.1	Revision of methodology.....	128
5.3.2	Respondents' profile.....	129
5.3.3	Descriptive statistics.....	130
5.3.4	Normality analysis.....	134
5.3.5	Alpha 1 model SEM hypothesis testing.....	136
5.3.6	Validity and reliability of scale items.....	138
5.3.6.1	Confirmatory factor analysis.....	138
5.3.6.2	Cronbach's coefficient alpha.....	142
5.3.7	Evaluation of measurement model.....	143
5.3.7.1	Convergent validity.....	143
5.3.7.2	Discriminant validity.....	144
5.3.8	Testing the structural model.....	145
5.3.8.1	t-Value.....	145
5.3.8.2	Path coefficients.....	147
5.3.8.3	Assessment of hypotheses.....	148
5.3.9	Summary of the findings.....	153
5.3.10	Conclusions.....	157
	<b>CHAPTER 6: VALIDATION STUDY .....</b>	<b>159</b>
6.1	Methodological Outline.....	159
6.2	Results from validity study questions.....	160
6.2.1	Results from question one.....	160
6.2.2	Results from question two and three.....	162
6.2.3	Results from question four.....	165
6.2.4	Results from question five.....	165
6.2.5	Results from question six.....	166
6.2.6	Results from question seven.....	166
6.2.7	Results from question eight.....	167
6.2.8	Results from question nine.....	168
6.2.9	Results from question ten.....	169
6.2.10	Summary of panel questions.....	170

6.2.11	Conclusions.....	171
<b>CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS.....</b>		<b>172</b>
7.1	Synopsis of research study .....	172
7.2	Conclusions .....	173
7.2.1	Research objective one .....	173
7.2.2	Research objective two .....	174
7.2.3	Research objective three .....	174
7.2.4	Research objective four .....	176
7.3	Contribution to theory .....	177
7.4	Recommendations for practice .....	182
7.4.1	Develop micropayments strategies .....	182
7.4.2	Improve the antecedents of attitude .....	182
7.4.3	Focus on system characteristics.....	183
7.4.4	Consider later payment .....	184
7.4.5	Options for micropayment services .....	184
7.4.6	Publisher trials .....	185
7.4.7	The time for micropayments is here .....	185
7.4.8	Transferability of results.....	189
7.5	Areas for further research.....	189
7.6	Limitations of the study.....	190
APPENDIX A: CONSTRUCT FOR SEMI-STRUCTURED INTERVIEWS.....		191
APPENDIX B: INFORMED CONSENT FORM .....		193
APPENDIX C: SURVEY INSTRUMENT .....		195
APPENDIX D: ACCESS AND CONFIDENTIALITY AGREEMENT.....		210
APPENDIX E: TRANSCRIPTION OF PILOT INTERVIEWS.....		211
APPENDIX G: FACTOR ANALYSIS .....		226
REFERENCES.....		233

## LIST OF TABLES

Table 4.1:	Differences between positivism and phenomenology.....	65
Table 4.2:	List of experts per expert group .....	81
Table 4.3:	Selection list: qualifying criteria .....	84
Table 5.1:	Pilot study subjects.....	96
Table 5.2:	Overview of factor identification in interviews .....	107
Table 5.3:	Number of factors identified per interview .....	107
Table 5.4:	Comparison of factors identified and factor mentions per interview.....	108
Table 5.5:	Factors identified per expert group .....	109
Table 5.6:	Summary of factor attributes from main study interviews.....	127
Table 5.7:	Main study (stage two) — demographic data .....	130
Table 5.8:	Descriptive statistics.....	131
Table 5.9:	Data normality analysis.....	135
Table 5.10:	Outer factor loadings — initial set.....	139
Table 5.11:	Outer factor loadings — final set.....	141
Table 5.12:	Cronbach’s alpha with number of items .....	143
Table 5.13:	Average variance extracted .....	144
Table 5.14:	Cross-loadings between the constructs in the model .....	145
Table 5.15:	Results of structural equations model tests .....	157
Table 6.1:	Participants in validity study.....	159
Table 6.2:	Validity study questions.....	160
Table 6.3:	Summary of validity study responses .....	171
Table 7.1:	Contribution to theory .....	181
Table 7.2:	Recommendations for practice.....	188

## LIST OF FIGURES

Figure 1.1:	Overview of research stages .....	14
Figure 2.1:	Traditional newspaper value chain .....	24
Figure 2.2:	Technology Acceptance Model .....	39
Figure 2.3:	TAM model with extended ‘intention to use’ .....	42
Figure 3.1:	The initial conceptual model .....	58
Figure 3.2:	The refined conceptual model .....	59
Figure 4.1:	Stages in the research process .....	89
Figure 5.1:	Alpha model .....	103
Figure 5.2:	Coding analysis process .....	109
Figure 5.3:	Initial category detection .....	110
Figure 5.4:	Clustering categories and creating codes .....	111
Figure 5.5:	Final factors set from interviews .....	112
Figure 5.6:	Alpha 1 model .....	128
Figure 5.7:	Alpha 1 model with indicators .....	136
Figure 5.8:	Alpha 2 model with indicators .....	142
Figure 5.9:	Beta 1 model with t-Values .....	146
Figure 5.10:	Beta 2 model with path coefficients .....	147
Figure 7.1:	Google Subscribe .....	186

## GLOSSARY

Term	Description	Reference
Attitude towards the use of technology	The degree to which a consumer rates a technology positively or negatively.	Davis et al. (1989)
Business model	The value a company offers to its customers in order to generate sustainable revenue streams.	Osterwalder and Pigneur (2010)
Consumer acceptance	When users are willing to purchase (WTP).	Bruner and Kumar (2003)
Intention to use	The likelihood that a person will actually employ a technology.	Venkatesh and Davis (2000)
Micropayments	When digital users are charged a small amount to access a newspaper's online content, such as an article or story.	McGarvey (2001)
Online news	The multimedia content of newspapers packaged for an audience by a media company.	Appelgren (2004)
Partial Least Squares (PLS) analysis	Method of linear regression used in business studies to investigate multiple relationships using a model.	Hair et al. (2011, 2013, 2014)
Perceived ease of use (PEU)	The degree to which a person believes a technology will enhance their attitude towards using it.	Davis et al. (1989); Venkatesh and Davis (1996); Wang and Li (2012)
Perceived Usefulness (PUN)	The degree to which a person believes a technology will enhance the performance of a certain job.	Davis (1989); Bruner and Kumar (2003)
Reliability	The overall accuracy and consistency of a measurement.	Cooper and Schinder (2011)
Technology Acceptance Model (TAM)	A construct to investigate user intentions within the context of innovative technology services.	Davis (1985, 1993)
Validity	The degree to which the method accurately measures what the investigator attempted to study.	Hutchinson and Wilson (1992)
Value chain	A chain of linked activities to deliver a value product to consumers.	Porter (1985)

## CHAPTER 1: INTRODUCTION

The aim of this chapter is to explain why the news industry and micropayments have been chosen as the topics of the study by introducing its context and environment. This chapter highlights the importance and intended practical purpose of the results. The author uses the above to describe the research question as well as the research aim and objectives of this study.

### 1.1 Context of the study

The service industry makes a significant contribution to many advanced economies. Switzerland was chosen for this study as its service sector is the biggest contributor to the country's economy (74% of GDP) (BfS, 2017a). Switzerland's Gross Domestic Product (GDP) adds up to CHF 659,978 million in 2017 (BfS, 2017b) with 74% contributed by 50 services sectors, along with the publishing industry representing another important GDP contributor (1% or CHF 3,503 million) (BfS, 2017a). With a population of 8.4 million (BfS, 2017c), Switzerland has 3.4 million printed newspapers which includes daily editions, Sunday papers and free papers, read by a total of 4.8 million people (BfS, 2017d). A total of 3.2 million unique visitors read digital newspapers and news-related websites on a daily basis (Schweizer Medien, 2017a). The country's top five publishers generate a total revenue of CHF 2'732 million (Schweizer Medien, 2017b).

Precipitated by the rapid proliferation of broadband internet access, the ubiquity of online news consumption and the increasing amount of news accessed via social networks, not to mention the rise of ad blockers, there has been a dramatic decrease in newspaper revenue streams, causing the profitability of publishers to suffer (Doyle, 2013). Since the Great Recession in 2009, the number of newspapers in Switzerland has dropped from 197 to 181 (-8%) and daily circulations have decreased by 18% (BfS, 2017d). Net advertising turnover has declined by CHF 1,228 million (-28%) in the past 5 years (Stiftung Werbestatistik Schweiz, 2017). Households have spent 5% less money on newspapers in 2015 compared to 2014 (Schweizer Medien, 2016). These problems have also led to decreasing revenue for the three main Swiss publishing companies, with 2017 revenues of CHF -46 million at the Ringier group, CHF -30 million at Tamedia and CHF -14 million at the Neue Zürcher Zeitung (NZZ) media group when compared to 2016 (Ringier group, 2018; Tamedia, 2018; NZZ media group, 2018). As print revenue has declined for 12 out of 17 publishers from 2014 to 2015 (WEMF, 2016), digital revenue has increased in that period. For example, digital revenue has increased +114% at Tagesanzeiger, +31%

at the NZZ publishing house, +88% at both Berner Zeitung and Le Matin, and even +136% at Der Bund (NZZ.ch, 2015); however, newspapers are still struggling to supplement their print losses with this digital revenue.

In 2018, the profitability issue continued to afflict the newspaper industry in Switzerland, putting severe pressure on publishers, meaning that finding new business models for online news is now essential. Micropayments present an opportunity for newspapers to monetise their digital content under a new business model by bringing in new revenue streams and offering users additional ways to read the news online. Micropayments have been gaining increasing attention in Switzerland recently; for example, Blendle, which aggregates a variety of newspapers and magazines on their micropayment platform, launched its services in Switzerland in 2015 (NZZ media group, 2015a). Neue Zürcher Zeitung was the first newspaper to sell its content on a pay-per-article basis on their platform, starting at EUR 0.01. Another example is Tamedia's 12-App mobile app, also created in 2015. The app offers 12 articles selected by the publishing house at a monthly subscription price of CHF 6 per month (Tamedia, 2015). Another leading Swiss publisher, Basler Zeitung (BaZ) offers their online news content in a pay-per-edition model at CHF 2 for 10, 50 or 100 digital publications (BaZ, 2018). Tamedia's website dasmagazin.ch launched day passes (24 hours access) for CHF 2 in January 2018 (Dasmagazin.ch, 2018). These recently launched news products for small-value transactions reflect a growing interest and increasing efforts in this area. However, the use of micropayment services by newsreaders remains low, so empirical research is required to understand how consumers adapt to online news micropayments (Sindik and Graybeal, 2011).

In the past decade, many international companies from various industries have also been putting greater emphasis on their micropayment initiatives. For example, Apple has dominated the micropayment scene since the launch of iTunes in April 2003. At the time, iTunes was a new way of selling songs, which helped the iPod to become Apple's lead product with a market share of 70% or more, surpassing the Macintosh in revenues in 2006: USD 7.7 billion vs. USD 7.4 billion (Apple, 2007). Another business leader, PayPal, implemented its initial micropayment options in 2008, processing payments under GBP 5 for any type of low value purchases. PayPal then launched an enhanced in-context frictionless payment solution in 2010, which let consumers pay for digital goods and content in two clicks, without ever having to leave a games, news, music, video or other media site. With these examples in mind, it appears that some companies are taking

on only a few aspects of micropayments, while others have adopted a more comprehensive approach and use micropayments as a corporate strategy. A major influence on either perspective is the consumer's predilection to use micropayment services. The importance of the PayPal product for news consumers is reflected by a statement from Mary Beth Christie, head of product management at FT.com:

*“Our readers want their news on demand, whether they're on a laptop, a mobile phone or a tablet. PayPal helps us provide the experience our customers expect, along with flexibility to experiment with payment mechanisms for subscriptions. This gives our customers the flexibility to pay for what they want, when they want.”*

*(BusinessWire, 2010).*

This highlights the importance of micropayments in the eyes of digital news users. In 2009, Walter Isaacson, the former managing editor of Time magazine, explicitly promoted the adoption of micropayments in the news industry by arguing:

*“The key to attracting online revenue, I think, is to come up with an iTunes-easy method of micropayment.”*

*(Time, 2009).*

In 2010, Nielsen asked consumers if they would pay for online news content. Just over half (52%) of the consumers favoured micropayments over subscription models for digital news (Nielsen, 2010). However, before micropayments for online news become a widespread business model, the way consumers adapt to the use of micropayments must be understood on an academic level. Several research studies have been conducted on the factors driving consumer acceptance of information technology (IT) in the following user acceptance models: Szabo, 1999; Shirky, 2000, 2003; Herzberg, 2003; See-To et al., 2007; Mutter, 2009; Sindik and Graybeal, 2011; Graybeal and Hayes, 2011. However, none of these studies have examined micropayments specifically both in relation to the newspaper industry and in the context of Switzerland.

To address this limitation, the researcher focused on one of the most influential newspapers in the Swiss market, Neue Zürcher Zeitung AG. Contrary to market trends, NZZ increased their circulation revenues in 2017: CHF 181 million vs. CHF 179 million in 2016 (NZZ media group, 2018). Between 2016 and 2017, total print reader numbers increased by 11,000 to 265,000 for their daily newspaper, Neue Zürcher Zeitung. The Sunday paper, NZZ am Sonntag, reached a total of 414'000 regular readers (WEMF, 2018). Paid circulation of both the print and digital editions of NZZ is declining marginally, but is still performing 4.6% better than that of their main competitor for the daily edition (-1.1% for Neue Zürcher Zeitung vs. -5.7% for its competing daily paper



Tagesanzeiger) and 4% better for the Sunday paper (-1.8% for NZZ am Sonntag vs. -5.8% for its competing paper Sonntagszeitung) (WEMF, 2018). While average ad revenue has decreased by 13% in the Swiss news market, advertising sales at NZZ declined by only 10% (NZZ media group, 2016). These figures reflect their advantage over competitors when it comes to stabilising their readership and generating profit from revenue streams, circulation and ads. Therefore, NZZ has performed better on average than the Swiss newspaper market.

Moreover, NZZ is especially pertinent to this research because it engages in various digital product initiatives, putting it at the forefront of bundling digital content for newsreaders in the Swiss publishing market. Its initiatives were exemplified in the launch of four new products in 2015, both purely digital products and ones with a strong digital focus. In the first annual quarter, NZZ.at was launched as a digital news platform in Austria with a paid content model targeting online consumers reading news on mobile websites (NZZ media group, 2015b). In the second annual quarter, the first print history magazine in the Swiss market, NZZ Geschichte, was introduced, which came with a mobile app for iOS and Android devices (NZZ media group, 2015c). In the same quarter, a purely digital product bundling existing content was launched, NZZ Selekt, which allowed mobile users to consume up to around 10 articles daily (NZZ media group, 2015d). In this same quarter, NZZ also launched its editorial product NZZ Toolbox, focussing on young readers aged 15-19 (NZZ media group, 2015e). This magazine maintains a strong engagement with its readers, mainly via social platforms like Facebook, Instagram and WhatsApp, and makes its editorial content available in a downloadable e-paper format. In 2017, NZZ added NZZ Perspektive to its digital range in Germany (NZZ media group, 2017a) as well as launching NZZ Global Risk for worldwide users (NZZ media group, 2017b). Further in 2017, NZZ developed a personalisation technology for websites and smartphones as part of the Google's Digital News Initiative (DNI). The user receives individual product recommendations based on their reading habits (NZZ media group, 2017c). In summary, NZZ is a suitable choice for this research project because it aims to offer a broad range of digital products as well as find innovative ways of presenting news in way that will attract new customers. Furthermore, with the Blendle initiative, NZZ is at the forefront in introducing micropayments in the Swiss newspaper market. As indicated in this section, there is no sufficient research on micropayments for digital news from a consumer's perspective, notably in Switzerland. The following section explains the significance of this DBA thesis

by analysing antecedents of consumer behaviour and the adoption of the Technology Acceptance Model (TAM) within the news sector.

## **1.2 Importance of the study**

The concept of consumer acceptance has been discussed since the late 1950s and has gained in importance ever since (Venkatesh et al., 2003). It has its origins in the academic field of consumer behaviour (Kernan, 1995; MacInnis and Folkes, 2010) intertwined with the marketing discipline. In the late 1960s, there were attempts to establish consumer behaviour as an interdependent field to elevate the status of consumer research (Kernan, 1995; Wells, 1995). Instead, it has become established as a multidisciplinary marketing sub-discipline that observes the development of adjoining disciplines (Helgeson et al., 1985).

As openness to other disciplines grew in the late 1980s, an early specialisation in information services (IS) and information technology (IT) led to a variety of models that have investigated consumer acceptance of technologies (Venkatesh et al., 2003). These include the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975), Technology Acceptance Model, (TAM) (Davis, 1985), Theory of Planned Behavior (TPB) (Ajzen, 1991), Diffusion of Innovation (DOI) (Rogers, 1995), Technology Acceptance Model 2 (TAM2) (Venkatesh and Davis, 2000) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). The TAM model has been established as the most popular concept in online and IT system-related literature (Sheppard et al., 1988; Chau and Hu, 2001). The importance of the TAM concept increased with an empirical investigation connected to the payments context in 2006 by Ondrus and Pigneur and continues to increase as more studies are conducted to develop frameworks and adoption determinants of TAM (Mallat, 2007). A reasonable amount of research studies have centred on mobile payment acceptance drivers (Dahlberg et al., 2003; Schierz et al., 2010; Kim et al., 2010), the intention to purchase regarding mobile apps (Hsu and Lin, 2015) and consumer attitudes towards mobile marketing (Gao et al., 2012). Little literature exists on micropayments for online news and consumer attitudes towards them — none of which specifically pertain to the Swiss market.

As the news market continues to suffer from declining circulation revenues and advertising turnover (Schweizer Medien, 2017a), the search for new profit models continues to grow in importance and publishers have started adopting a strategic approach towards micropayments lately. For example, the German mainstream publisher Spiegel

Online launched its paid content strategy in June 2016, providing unbundled content by selling single articles from the paid Spiegel magazine and from Spiegel Online (which had hitherto been free). Using content from several platforms shows that the micropayment model is the main focus of their paid content strategy, aiming at selling a maximum number of articles without simultaneously losing visitors and ad revenue. Offering micropayments for single articles at EUR 0.39 and continuing to provide corporations with external news aggregators of more expensive content (Blendle: regular article EUR 0.75, cover story EUR 1.99, pocket story approximately EUR 1) will enhance the company's income streams and serve different news consumption needs (Pimpl, 2016).

The researcher, a digital marketing manager in the news industry and employee at NZZ AG, was interested in finding out whether micropayments were in fact a valuable tool in attracting readers interested in purchasing online content for small amounts. The research question is "What are the factors that influence consumers' use of online micropayments in the Swiss newspaper industry?". This study represents the first attempt to examine antecedents influencing the interest in micropayment use in the Swiss newspaper industry from a consumer perspective.

The researcher noticed that the concept of consumer acceptance is missing a more coherent and consistent term, due to the newness of the research topic. Similar concepts are acceptability, attitude, paying intent, willingness to pay (WTP), intention to pay, intention to adopt and intention to use. Scholars have tied these views to consumer behaviour theory, business model innovation and strategic management change, in an attempt to determine the priorities of consumers towards their attitudes in changing market environments. Based on the influential work of Davis (1985), TAM has become widely accepted and the most popular concept (Sheppard et al., 1988; Chau and Hu, 2001), hence the researcher chose the core TAM model as a starting point. The study follows the line of previous studies with two sets of external variables: system characteristics as the first set and individual differences as the second set, which have been both posited to affect user beliefs (perceived usefulness and perceived ease of use) (Davis et al., 1989; Davis, 1993; Venkatesh, 2000). The thesis also investigates the relationship between the user's beliefs and their attitude towards micropayments, both of which directly influence whether they will use these services. The researcher included additional factors into the theory to expand the original TAM model provided by industry

experts during the course of the study and then applied the model in a research study on the consumer market in the Swiss news industry.

The research aims to find out which factors within system and individual characteristics influence consumers to use micropayments for online news, thus justifying strategic approaches towards paid content models and generating an additional income stream that balances circulation and the decline in ad revenue. Additionally, if micropayments help newspapers earn more profit, which aspect of consumer acceptance criteria — whether system or individual factors — increases the use of micro-transactions, thus demanding more attention to make it a sustainable competitive advantage?

The evolution of the micropayments concept and empirical research is discussed further in the literature review section. The research adopted a primarily positivist approach with a mixed-methods methodology — i.e. primarily on a quantitative investigation using a cross-sectional study design — combined with an exploratory-based qualitative approach. The study was carried out in two stages. The first part, a qualitative study, used semi-structured interviews with industry experts from news organisations, micropayment services and industry observers. The interviews provided in-depth knowledge on the strategic decision procedures carried out by these executives on business model innovation in the news industry, serving as a way to pre-identify variables and areas of study to be explored in the quantitative study. The second part of the study, the main quantitative study, which collected primary data, used a nationwide web survey of online newsreaders of NZZ.ch as data collection method. The survey was devised based on the research hypotheses and models derived from the literature. The next sections explain the intended contribution of the research, its aim and objectives.

### **1.3 Intended contribution**

The goal of the research was determining antecedents of consumer attitudes towards micropayments and thus the use of these. Additionally, the researcher aimed to find a distinction in the levels of contribution between system and individual characteristics pertinent to the intention to use micro-transactions. Knowing this will enable newspapers to build paid content models for small amounts of money and focus on the features that determine its use. Moreover, the research was used to determine the impacts of antecedent variables, such as perceived usefulness and perceived ease of use. Recent research has shown that perceived usefulness has an influence on consumer attitudes towards a form of information technology (Davis et al., 1989), while perceived ease of use improves user

acceptance towards the use of technology systems (Davis, 1989; Davis et al., 1989; Venkatesh and Davis, 1996, 2000). Therefore, this study aimed to verify these relationships specifically for the use of micropayments, supplementing previous studies that have confirmed relationships in related subjects, as shown in the research framework in the upcoming sections. Finally, the research added to the existing literature by identifying additional factors affecting the acceptance of micropayments identified by industry experts.

This thesis represents the first known study to examine factors influencing the use of micropayments from a consumer's perspective, specifically in the Swiss newspaper industry. Owing to the novelty of this research topic, and the fact that no investigation of the antecedents of online micropayments in the news industry has been undertaken pertaining to the Swiss market in particular, this study helped to address the research gap and will clarify the importance of various aspects of micro-transactions. Newspapers can refer to the research results when forming new business models for online news and integrating micropayments into their paid content strategy in order to strengthen their competitive advantage, making them aware of the challenges concerning the adoption of micropayment services and learn how these challenges have to be overcome. This study showed evidence that readers intend to use online micropayments providing concrete acceptance factors. These factors include mobility, compatibility, convenience, post-pricing and the demand for a single payment platform which influence the usefulness perception and the easiness perception and point to the attitude and use of micropayments. The author addressed the importance of the identification of the later payment factor and the single payment platform factor. The implications of the study for leading staff at news organisations is therefore immense. With regard to the TAM theory, this thesis makes a valuable contribution through the methodology used in this study, combining semi-structured interviews with industry experts and a web survey conducted among readers of digital news. Structural Equation Modelling (SEM) was used as data analysis method in this study, which has not been used before in the research topic. This methodology has been used to probe the connection with the TAM model. The research question, aim and objectives are provided in the following section, as an attempt to improve general understanding of digital micropayments.

## **1.4 Research question, aim and objectives**

Given the above discussion on the increasing significance of micropayments, its potential impact on the news industry and its competitive advantage in Switzerland, the study's research question, aim and objectives are as follows:

### **1.4.1 Research question**

- What are the factors that influence consumers' use of online micropayments in the Swiss newspaper industry?

### **1.4.2 Research aim**

The key to the success of any organisation is the understanding of customer needs and, in the context of this study, how consumers engage with digital content of newspapers. It is therefore important for news companies to know if online users intend to use the business model of micropayments. What factors draw readers of digital newspapers to use micropayments, creating a possible additional revenue stream? Thus, the research aim is:

- To examine factors influencing consumer use of online micropayments across the Swiss newspaper market and thus increase the revenue stream.

### **1.4.3 Research objectives**

Research has shown positive relationships between attitude and the intention to use a form of information technology (Davis et al., 1989). User beliefs, perceived usefulness (Davis et al., 1989; Venkatesh and David, 1996, 2000) and the perceived ease of use (Davis, 1993; Venkatesh, 2000), influence the attitude towards technology use. Relationships exist between system characteristics (mobility, compatibility, convenience) and individual characteristics (innovativeness, knowledge), as well as the perceived ease of use (Tornatzky and Klein, 1982; Chen et al., 2000; Clark, 2000; Srinivasan et al., 2002; Mun et al., 2006; Bhatti, 2007). These relationships have been tested before, albeit largely in the context of mobile payments. However, it is unclear whether these variables apply to online micropayments in the context of the Swiss news industry. Therefore, the researcher examined the relationships in Switzerland's news industry, particularly important to the country's economy. Owing to the novelty of micropayment research in this context, additional measures in the system and individual characteristics sections were identified to add to the core TAM and contribute to the research framework for this thesis. The researcher used interviews with experts from the news and micropayments industry, as well as experts in the area of consumer behaviour, to investigate these

additional potential antecedents determining consumer use of micropayments. All variables were then empirically tested in a large email survey with NZZ.ch readers and applied to the context of online content. Based on this, the following four overall objectives were devised:

1. Based on a literature review, to develop a conceptual model that investigates the impact of factors relating to mobile payment practices on consumers' attitudes towards the intention to use of micropayments.
2. Based on the research on the Swiss newspaper industry, to discover and implement additional system characteristics and individual features unique to micropayments.
3. To empirically examine the influence of existing and new factors on micropayment use in the Swiss newspaper consumer market and validate the results.
4. To make recommendations based on the results from objectives 2 and 3, both from a consumer and industry expert's perspective, that will enhance revenue from digital content.

From these overall objectives, the following sub-objectives were devised to inform the operational objectives on which the TAM model was constructed and tested in the research:

- To investigate the relationship between the attitude towards micropayments and the intention to use micropayments.
- To investigate the relationship between the perceived usefulness of micropayments and the attitude towards micropayments.
- To investigate the relationship between the perceived ease of use of micropayments and the attitude towards micropayments.
- To investigate the relationship between mobility of micropayments and the perceived usefulness of micropayments.
- To investigate the relationship between mobility of micropayments and the perceived ease of use of micropayments.
- To investigate the relationship between compatibility of micropayments and the perceived usefulness of micropayments.

- To investigate the relationship between compatibility of micropayments and the perceived ease of use of micropayments.
- To investigate the relationship between convenience of micropayments and the perceived usefulness of micropayments.
- To investigate the relationship between convenience of micropayments and the perceived ease of use of micropayments.
- To investigate the relationship between innovativeness of micropayments and the perceived ease of use of micropayments.
- To investigate the relationship between knowledge of micropayments and the perceived ease of use of micropayments.
- To establish and investigate new relationships among additional variables of system characteristics and the perceived usefulness of micropayments.
- To establish and investigate new relationships of additional variables of system characteristics and the perceived ease of use of micropayments.
- To establish and investigate new relationships of additional variables of individual characteristics and the perceived usefulness of micropayments.
- To establish and investigate new relationships of additional variables of individual characteristics and the perceived ease of use of micropayments.

In order to operationalise these objectives and sub-objectives, a number of operational objectives were devised. These are described in Chapter Three (Literature Synthesis).

## **1.5 Outline of the thesis**

This dissertation consists of seven chapters. Chapter One acts as an introduction to the DBA thesis, functioning as the basis of the study and the following chapters by providing the context and highlighting the significance of the research topic. It also presented the rationale for the research project, stated the research question, aim and objectives. Chapter One also alluded to the methodology of the study and provided a summary of the path of the thesis' analysis.

Chapter Two begins the literature review by analysing the background of micropayments as business model. Opportunities for companies and consumers that result from the transformation of the digital media world are put forward. Section one outlines the transition from traditional media to new media via digital technologies. Section two focuses on newspapers as one type of media and its underlying newspaper industry, chiefly on the printed newspapers and on digital newspapers as well as online news.



Section three presents the Swiss newspaper market with its country-specific characteristics, including the fundamental Swiss media system, by highlighting the underpinning Swiss news industry that is crucial to the path of this study. Section four provides the scientific basis for the concept of this study in an attempt to address the value chain of newspapers, both traditionally and digitally. Section five approaches micropayments in a business model context, provides a discussion of changing profit models in the newspaper industry and highlights the business models for digital news. Section six starts with the definition of micropayments, mainly in the context of online news comprising of outlining elements, such as amount and types, and states contrary scientific views towards them. Section seven is based on consumer perspectives towards the use of micropayments, providing various views of acceptance models. Section eight provides the scientific groundwork of the conceptual model by indicating the relationships between influences as follows: perceived usefulness, perceived ease of use, attitude towards the use, system characteristics and individual differences. This leads to the intention to use micropayments. Section nine closes Chapter Two with a summary of the findings from the literature review.

Chapter Three is a synthesis of the findings to the literature review. This chapter presents the basic theory of the study by providing an initial conceptual model plus operational hypotheses. It also covers multiple behaviour-influencing factors towards micropayments, which are referred to in the literature review.

Chapter Four frames the study's methodology including the pilot study, the main study and the validation study. It sets out the details on the research paradigm as well as an approach and a research design. Sampling processes, data collection and analysis techniques used in this study are discussed. Details on the two methods of semi-structured interviews with industry experts and the web survey with digital news consumers are laid down.

Chapter Five presents the results of the data collection process. It presents the pilot study results with industry experts in an attempt to test the foundations of the initial conceptual model. Hence, it provides the grounds for conducting the comprehensive main study. Following the main study findings with the industry experts, the results are applied to the consumer-centric web survey to examine the comprehensive conceptual model with the intention to identify the factors that are empirically related to the use of online micropayments.

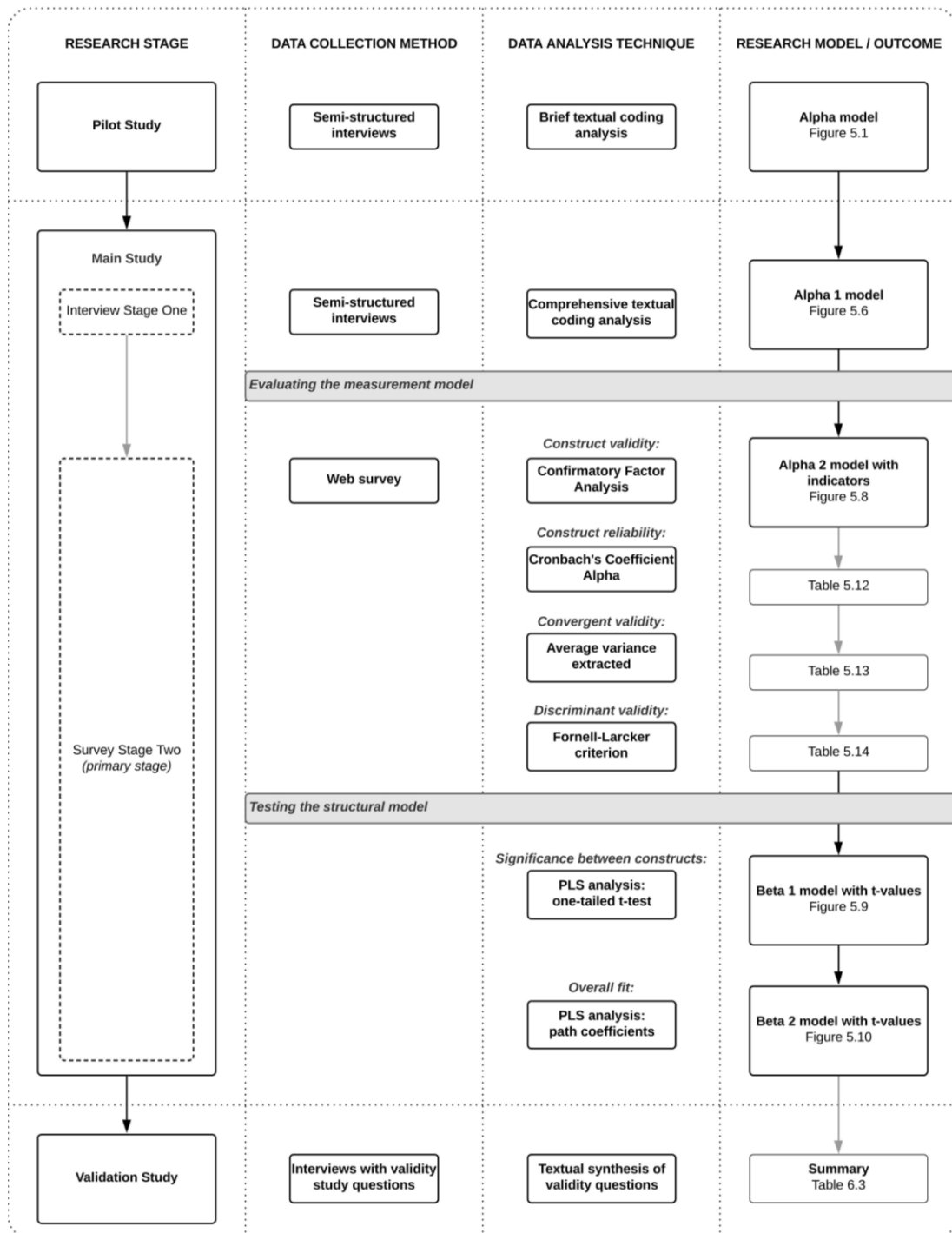
Chapter Six describes the outcomes of the validation study aimed to validate the research model and survey results among a group of industry specialists and academic professionals. The chapter describes how the expert panel helped to extend the research findings, addressing each of the various questions from the validation study in detail.

Chapter Seven concludes the thesis by summarising the major findings and provides recommendations for newspapers in the strategic planning and implementation process of micropayments. This chapter starts with a synopsis of the study in section one and proceeds with conclusions on the research objectives in section two. Section three highlights the importance of this study as the first known attempt to investigate micropayment use in a Swiss context, thus making several noteworthy contributions to theory. Section four details practical recommendations for newspapers wishing to implement micropayments, commenting on the transferability of the results. Future research opportunities are recommended in section five. The chapter closes by considering the limitations to the study in section six.

A set of appendices and a list of references constitute complementary elements to the thesis and are placed at the end of this document.

Figure 1.1 shows an overview of the different research stages, including their corresponding data collection methods and various data analysis techniques referring to each subsequent stage of the research model obtained during the research path.

**Figure 1.1: Overview of research stages**



Source: Author (April 10<sup>th</sup> 2019).

## **CHAPTER 2: LITERATURE REVIEW**

This chapter presents a literature review exploring the background of micropayments as business models in online news from a consumer perspective. The literature review was guided primarily by the research aim and overall research objectives. The researcher gathered background information and developments on the research topic by browsing discipline-specific flagship journals and using key terms to search electronic databases. The author then used key issues to evaluate, interpret and analyse relevant literature in a synthesised manner. Through reviewing the literature, the researcher assumed a holistic viewpoint of the topic. The first section begins with an introduction to the research topic, followed by the second section, which describes the newspaper industry overall, specifically printed and digital news. The third section describes the Swiss media system and Swiss news industry. In the fourth section, the traditional value chain for printed newspapers and for digital news is presented. The nature of business models and the way they change over time due to digital disruption is explained in the fifth section. The sixth section introduces micropayments as business models for online news, followed by consumer perspectives on micropayments and mobile payments in the seventh section. In the eighth section, the research framework including antecedents influencing the use of micropayments are thoroughly explained. Finally, the chapter ends with a literature summary.

### **2.1 Introduction**

The transition from traditional to new media has different consequences and repercussions for news companies and their consumers. By considering how the role of traditional media has changed and how the internet has evolved, new media will provide a basis for a better understanding for all market players in the news industry. Traditional media, also referred to as old media, has been used in a marketing context consisting of TV, radio, print advertising, newspapers, direct mail, yellow pages and door-to-door-sales over the course of the past century. These conventional forms of marketing can be seen as the roots of advertising and were implemented by businesses to reach consumers and other companies for many decades. While traditional media can indeed be an effective tool, more and more businesses have incorporated new media into their marketing mix since the needs and expectations of consumers have evolved.

New media refers to forms of advertising that are accessible through digital media. Examples of this on the internet include Search Engine Marketing (SEA), banners,

retargeting, streaming (videos, TV, radio), social media ads, mobile marketing, seeding, native and content marketing. As a result of new digital convergence, the media industry has risen in importance over the past few years. Revenues of the global media industry grew by 5.5% from 2015 to 2016 and encompassed USD 1.7 trillion (PwC, 2016a). In Switzerland, media revenues increased by 5.6% to CHF 14.2 billion from 2014 to 2015 and by 2.1% from 2015 to 2016 (PwC, 2016b; PwC, 2017). Although businesses must find a balance between traditional and the new media, there is a clear trend indicating that new media revenue will outpace the traditional media landscape in the near future. In 2016, global internet advertising surpassed TV advertising (USD 72 billion worldwide) and China, UK and Denmark are expected “*to reach the tipping point where total digital advertising revenues surpass their non-digital equivalent.*” (PwC, 2016a). Swiss revenue for new media climbed by 7.1% to CHF 6 billion in 2016 (PwC, 2016b). At this rate, over the next few years, new media will not only outpace old media in terms of revenues, but will ultimately conflate and subsume traditional media.

However, the contrary belief exists that rushing into the digital advertising world will exacerbate the shortcomings of this fast-growing medium. Digital advertising is a relatively new discipline (compared to TV, for instance) and thus struggles to keep up with technology. While TV was introduced in the mid-1930s and became a mass medium in the 1950s, the Internet Advertising Bureau (IAB), which promotes the value of the interactive advertising industry worldwide, was founded only in 1996 — that is, just over 20 years ago (IAB, 2018). Although digital advertising surpassed TV advertising in an exponential increase, digital technology has not yet provided accurate and reliable measurement systems. Marketing influencers argue that the digital movement has led companies to hastily enter the market and thus deliver poor-quality advertising and bombard consumers with outdated ad settings, which has not only made way for fraud, but has also led to the rise of ad blockers (Tylee, 2017).

In summary, clear opportunities for companies and consumers alike exist in the digital media world, but shortcomings in this transition phase caused by the pace of digital technology must also be considered. One relevant example of this process of digital transition is the current evolution of digital news services, which will be clarified in the following sections.

## **2.2 Newspapers and the news industry**

Newspapers have been a source of information for hundreds of years and represent a segment of the news industry. Traditionally, newspapers are categorised as a segment of mass media. Mass media has been described as the production and distribution of information on a one-to-many concept (Morris and Ogan, 1996). The definition of mass media also encompasses forms of communication transmitted through a channel to reach a mass audience (Wimmer and Dominick, 2013). Media channels are used by different businesses to broadcast their information to a large number of people; these include the internet, television or radio. Before the internet evolved, the printed newspaper was the original form of mass media and it was traditionally produced by journalists at local news establishments. With the evolution of digital technology and the internet, the definitions of mass media and newspapers have been changing. The following chapters describe the details on printed newspapers, digital newspapers and online news.

### **2.2.1 Printed newspapers**

There are several ways to define a newspaper. Probably the most common understanding of a newspaper is a paper that is printed, such as the *Neue Zürcher Zeitung*, which contains news, opinion pieces, special features and advertisements. A paper is typically distributed daily, weekly or on Sundays. Another widespread use of the term is to describe an organisation that publishes the newspaper, such as the NZZ media group. Furthermore, *“a newspaper connects sources of news with readers”* and acts as a mediator: *“as the world makes news, the newspaper reports on it and the public consumes it”* (Barnhurst and Nerone, 2001, p. 2). Newspapers also expose advertisements to the readership. They thus constitute a particular relationship to the reader market and the advertisement market.

Since a newspaper was traditionally printed on paper, it is also defined based on its physical form. Wang and Srihari (1989) describe a printed newspaper as *“a set of pages, and a printed newspaper page [as] a complex document containing several static visual information representation forms, such as textual, pictorial, and their many combinations”* (Wang and Srihari, 1989, p. 327). However, their particular definition lacks precision on publication details. Hadenius and Weibull (1999) provide a more detailed terminology, wherein they distinguish a printed edition by its publication frequency, type of content, place of publication, national or regional distinction and whether it is a morning or evening paper.

In literature, the printed newspaper tends to be based on three components: content, delivery and advertising. The content consists of an editorial bundle composed of articles, opinions, commentary and elements of special information. The production of the content involves editors, journalists and freelance writers plus wire services. The delivery conventionally consists of physical distribution channels like trucks, carriers and single sales points (Palmer and Eriksen, 1999). Advertising is an important revenue stream for the vast majority of printed papers and is generally split between retail advertising and classified advertising (Shaw, 1997). These three key elements are responsible for the major costs and streams of revenue.

The evolution and usage of digital technology, especially with the emergence of the internet, has expanded the traditional printed news industry and created marked trends. As more people consume news online, a comprehensive understanding of digital or online news is essential.

### **2.2.2 Digital newspapers and online news**

Digital newspapers and online news comprise the same elements as printed newspapers — content, delivery and advertising — but in the new medium, the internet. The multimedia content of digital newspapers consists of text and photos, charts and graphics, audio and video. The delivery mechanisms vary and range from access to the website to newsletters that contain specific topics. Digital advertising remains an important revenue stream using links to the advertiser’s key landing pages. It falls into one of the two categories of retail and classified.

With the help of today’s digital technology, nowadays content can be made available in a number of different forms. Digital news services are, in the most general sense, defined as “*digital news content packaged for an audience by a media company*” (Appelgren, 2004). A typical example of a newspaper’s digital service is its online edition, that is, a website where the newspaper company provides content to their readers. Literature lacks a clear term for ‘online edition’, as it also uses the term electronic edition as a synonym (Chyi and Sylvie, 1998). Another example is the e-paper version, where the digital newspaper replicates the printed newspaper in content. Again, there is no reliable nomenclature for this, as a research paper from Palmer and Eriksen (1999) uses the substitute expression digital hybrid. The e-paper version or digital hybrid can be read online with a mobile device, however, usually with a tablet or desktop app or downloaded as a PDF file. It resembles a traditional paper, but can offer interactive multimedia content

that can be customised to individual readers and enriched by clickable links. News apps provide news content in apps that are specifically designed for the reading device. All forms of the digital news services above are updated regularly. Other forms of digital news services include entertainment and advertisements, which are embedded in the content of the newspaper's website. Complementary digital news services include updates via SMS, topical blogs, web TV and podcasting, all of which are available through clickable links leading to the online edition.

Broaching the subject of micropayments for online news in a specific country requires a comprehensive knowledge of a range of specific factors within the news market. The scope of this study is focused on the country of Switzerland; therefore, various aspects of the Swiss newspaper publishing market and its media market as a whole are portrayed in the following section.

### **2.3 Swiss newspaper market**

The newspaper sector is part of a media system and as such it mimics the characteristics of a given nation. Although it is not the aim of the study to examine cultural features influencing consumer use of micropayments, identifying potentially relevant news market characteristics is invaluable in understanding the growing national interest in alternative payment methods. The next subsections describe specific features of the Swiss media system and characterise the news market in Switzerland.

#### **2.3.1 The Swiss media system**

Media systems can be differentiated in various ways, which is shown by the variety of approaches of typologies used in the field of media research (Siebert et al., 1956; Wiio, 1983; Martin and Chaudhary, 1983; Hallin and Mancini, 2004; Blum, 2005). The exploratory, comparative study "Comparing Media Systems" by Hallin and Mancini (2004) analyses media systems according to geopolitical divisions in North America and Western Europe. The authors comprise 18 nations and, unlike other studies, include small countries, like Luxembourg and Switzerland. It was the first time that the Swiss media system had been systematically analysed in a research typology of this kind. The researchers described three models of media systems: the Democratic Model for countries located in Northern and Central Europe (e.g. Germany, Austria and Switzerland), the Polarised Pluralist Model for the Mediterranean regions (e.g. France and Italy) and the Liberal Model (US and UK). As Switzerland fell under the Democratic Model, it displays a high reach of the press market, a high newspaper circulation, a strong journalistic



profession, a strong state involvement (in the form of strong public service broadcasters and subsidies for the press) and a relatively high degree of political parallelism. Although political or government interventions cannot be undertaken, controls and checks were established in order to maintain the independency of the media (FMEC, 2014).

The Swiss media system is currently undergoing transformation, arising from the challenges of digital convergence and resulting changes in media use. In the interests of democracy, it seems appropriate that this digital transition process is accompanied by supportive measures, such as the establishment of payment models that ensure acceptance by the public and by modalities for digital media products. The process of transformation in the Swiss media landscape can also be seen in the changes occurring in specific types of media. One major type of media that clearly demonstrates this process is print media, specifically the daily press. The main characteristics of the Swiss news industry and their direct relevance to this study will be examined more closely in the next section.

### **2.3.2 The Swiss news industry**

The Swiss news industry is characterised by the existence of a number of languages. German language news is in the majority (64%), a smaller part constitutes the French-language media market (20%), followed by an even smaller Italian-language region (7%) (BfSe, 2017). At the same time, the ownership of the media market is highly concentrated. The public broadcaster SRG SSR maintains a strong position in all three language regions with its TV and radio programmes, represented by SRF in the German part, RTS in the French part and RSI in the Italian part. There is no strong private broadcaster comparable to the national and linguistic level of SRG SSR in Switzerland, but neighbouring countries Germany, France and Italy significantly influence each language market.

Owing to the linguistic distinction within the Swiss media market, there is no supra-regional newspaper; however, there is a large number of regional titles owned by a few main players. The news market is dominated by the multimedia group Ringier AG, the publisher Tamedia AG as well as the NZZ media group.

The biggest main news player, Ringier AG, gained a revenue of CHF 1,003 million in 2017 and owns various online and offline tabloids such as Blick, in the German-language part, and the daily newspaper, Le Temps, in the French-speaking media market (Ringier group, 2018).

The second main news player is Tamedia with a revenue of CHF 974 million gained in 2017 (Tamedia, 2018). The nationwide free newspaper, which is available in all three language regions — respectively 20 Minuten, 20 Minutes and 20 Minuti — belongs to Tamedia. The publishing house has acquired various regional newspapers over the past few years, such as 24heures and Le Matin, leading to a market share of 41% in the German press market and over 68% in the French press region (The Quality of the Media, 2012). Lastly, the Tagesanzeiger is Tamedias' nationwide daily newspaper.

The third biggest news player, NZZ media group, gained a revenue of CHF 428 million in 2017 (NZZ media group, 2018). Its highly regarded daily newspaper, Neue Zürcher Zeitung, is distributed both nationally and internationally. The NZZ media group also owns 11 regional newspapers in the eastern and central German-speaking parts of Switzerland. The main regional paper St. Galler Tagblatt circulates in the canton of St. Gallen and surrounding areas, while the Luzerner Zeitung circulates in the canton of Lucerne.

Digital news sources in Switzerland are dominated by the online versions of free papers, tabloid platforms and the news website of the public broadcaster SRG SSR. There are just three digital-born national players: Watson.ch, a German-language website launched in 2014, Bluewin.ch, an information offering platform run by the public telecom provider Swisscom, and Republik.ch, an online-magazine launched in January 2018. International news companies are not widespread in the Swiss media market.

The average (median) percentage of people who pay for online news is 10% in Switzerland. This cannot be compared to other European nations, as the picture varies greatly from country to country. The average (median) yearly payment for online news in Switzerland was GBP 71 (~ CHF 97), with UK the only higher European country, at GBP 82 (~ CHF 112). There is no significant difference between ongoing payments and one-off payments, meaning that according to this study, there is no dominant payment model in Switzerland (Newmann et al., 2016).

The Swiss newspaper market, as in the rest of the world, continues to suffer from declining circulation revenues and advertising turnover. The advertising turnover in the Swiss press market has been declining since 2007, a marginal increase in 2011 notwithstanding (Stiftung Werbestatistik Schweiz, 2017). These shortcomings are far from compensated for by online gains, with overall online advertising turnover of CHF 1,264 million in 2016 (Stiftung Werbestatistik Schweiz, 2017). These problems have led

to decreasing revenue results for the Swiss main publishing companies, with 2017 revenues CHF -46 million for the Ringier group, CHF -30 million for Tamedia and CHF -14 million for the NZZ media group compared to 2016 (Ringier group, 2018; Tamedia, 2018; NZZ media group, 2018).

These specific market factors in Switzerland are extremely relevant to this study, as they force Swiss newspaper companies to focus on digital innovation and new business models in their original core activities of content production and publishing. Swiss publishers have already started to react to the situation: in 2015, NZZ media group created a new management structure and built a digital product division to adapt to the digitalisation of the news industry. Tamedia established a new division named Tamedia Digital in 2016, which focuses on strategic technology innovations such as pioneering business models. Ringier and NZZ participated in the Facebook Instant Articles initiative, while NZZ was supported by Google in the Digital News Initiative for high speed mobile website access and paywall personalisation in 2017. The NZZ media group also launched digital news offerings, such as the NZZ.at website in Austria and the regional radio broadcast website FM1Today.ch.

## **2.4 Value chain of newspapers**

This section represents the value chain of the newspaper industry and its main foundations and acts as a basis upon which to understand the concept of business models in the following section. More precisely, this section familiarises the reader with the origins of value chains, then presents the traditional newspaper value chain followed by an introduction of the digital news value chain, as elicited by the internet.

### **2.4.1 Introduction to value chains**

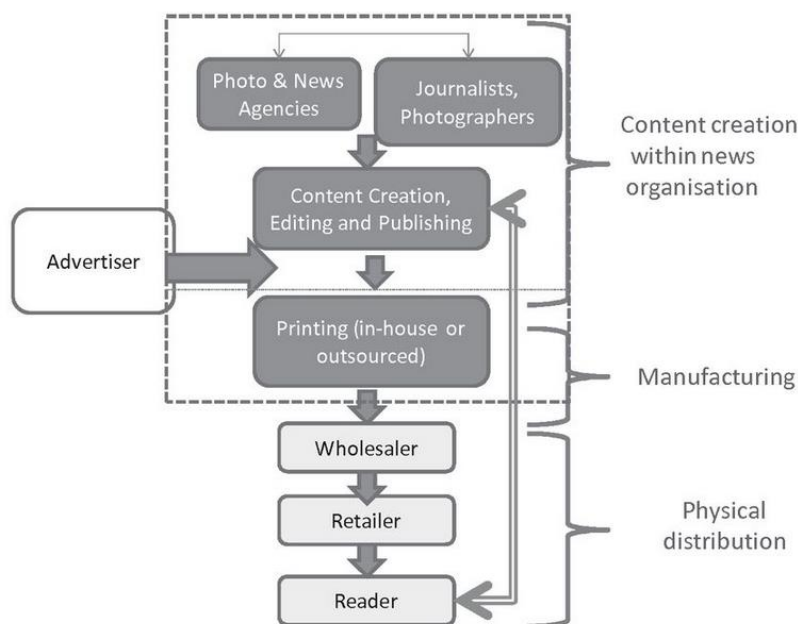
Academics and managers have extensively described the process of creating value in a physical world and linked it to the stages of a value chain. The value chain was originally introduced by Michael Porter (1985), made up of primary and secondary activities or processes within an organisation operating in a specific industry that contains resources to manufacture goods or services. Primary activities involve inbound and outbound logistics, operations, marketing and sales and service. Secondary activities include procurement, human resource management, technological development and infrastructure. The activities are based on processes in the value chain and can be categorised into a traditional value chain with a physical-world activity and a virtual value chain with digitally aided activities.

Since newspapers are a sector of the news industry, the value chain of the newspaper industry needs to be clarified further in the context of this research project. The following section sheds light on the print newspaper industry's traditional value chain and its principal economics. While this section is not specifically relevant to the research topic, the traditional value chain provides a useful basis for the subsequent section on the digital news value chain.

#### **2.4.2 Traditional newspaper value chain**

The traditional newspaper value chain is presented in a report from the Organisation de coopération et de développement économiques (OECD) in 2010 on the development of digital news in the internet age (Wunsch-Vincent and Vickery, 2010). According to this OECD report, the traditional role of newspaper companies “*is to intermediate between content producers (journalists), information users, and advertisers and other attention-seekers*” (Wunsch-Vincent and Vickery, 2010, p. 33). On the one hand, the newspaper selects, verifies and packages information, but on the other, it also creates demand for information for audiences. Publishers then distribute the information by selling access to these audiences to advertisers and newspapers make information physically accessible to readers, thus demonstrating the two-sided characteristics of news markets. Figure 2.1 visualises the main activities and processes in the traditional value chain and focuses on content creation, manufacturing and distribution. These three steps, supplemented by Picard's additional marketing stage, are described as follows (Picard, 2000).

**Figure 2.1: Traditional newspaper value chain**



Source: Wunsch-Vincent and Vickery (2010, p. 33)

Content creation in a journalistic context describes the process of information research and background investigation. Journalists and photographers gather and provide news articles and background information, but news agencies such as Reuters and Agence France Press supply news stories to publishers. Since content creation is the largest fixed cost of a newspaper, content syndication has become a familiar concept for generating income — this is when content is produced once and re-sold multiple times (Anding and Hess, 2002). Examples of major newspapers with sharing contracts and content syndication are The Financial Times or The New York Times.

Manufacturing involves the workflow following content creation, when the newspaper is printed from a digital file at an own or outsourced printing facility. Similarly to content creation, the printing process entails significant resources amongst the total costs of the newspaper production. Depending on the country and the newspaper, the printing costs vary from 20% to 40% (Wunsch-Vincent and Vickery, 2010).

Distribution has traditionally included a large distribution system, which typically consisted of wholesalers and retailers with papers sold on a subscription basis by mail delivery or on a single copy basis at a newspaper kiosk. On average, the share of distribution in overall costs within the traditional value chain is around 30%, with large differences in several OECD countries (Wunsch-Vincent and Vickery, 2010).

Marketing, advertising and promotion occupies an invisible role within the editorial value chain, yet it represents an essential part given its financial contribution to the viability and sustainability of a newspaper. The advertising process involves a workflow for selling advertising in any kind of newspaper format and with promotion measures to attract new readers. According to the OECD report, the share of advertising costs varies greatly from country to country.

### **2.4.3 Digital news value chain**

New media, such as the internet, influences the way publishers operate in the news industry, redefines challenges within their editorial process and leads to a constant information overload to the readership. Hence, Barclay (2012) accurately concludes that digital technologies have impacted the value chain of newspapers in its traditional way. Pavlik (2000) maintains that the transformation is expressed in four areas “(1) *how journalists do their work*; (2) *the content of news*; (3) *the structure or organisation of the newsroom*; and (4) *the relationships between or among news organisations, journalists and their many publics*” (p. 229).

The change associated with content creation and manufacturing has influenced how journalists work. The internet acts as a basis for research purposes and Twitter is a platform for expressing opinions. News is produced continuously, aside from articles created to an editorial deadline for the printed version of a newspaper. The internet also provides opportunities for broadcast journalism and enables news companies to publish breaking news in a timely manner. Content creation and the press printing process are dependent on computers nowadays, while digital technologies have innovated software such as graphic tools within the ‘digital print’ processes.

In terms of distribution, the internet allows contact between journalists and readers as well as enabling live interactivity such as feedback and correction on mistakes (Chan-Olmsted, 2011; Barclay, 2012). The distribution process is even more reliant on modern computers and technological communication tools and a new market for software suppliers has evolved.

Innovations have impacted the marketing element of the value chain in terms of design and the role of advertising in newspapers. Editorial content and advertising have begun to conflate on news websites in the form of advertorials that are usually placed around news content.

Value chains are just as important as business models in a company's overall success. The two work together: the benefits of the value chain contribute to the business model by giving customers the reason to buy, thus generating revenue and keeping the company solvent. The systems of business models are highlighted in the following section.

## **2.5 Business models**

Picard (2000) makes it plausibly clear that business models are necessary to understand the context and strategies of digital news service providers as well as clarifying the ways in which news producers can integrate them into their operations to maximise their advantages and opportunities. This section discusses business models and their focus on online news content.

### **2.5.1 The context of business models**

There is a vast amount of academic and managerial literature on business models. Various approaches are based on Picard's study (2000), in which he relates business models to a firm's strategy, a product strategy or a marketing strategy. The distinction between business models and strategies has been clearly addressed in former research. While strategies are concepts that are implemented by a company to determine and achieve its long-term objectives (Lindblom and Braybrooke, 1963; Mintzberg, 1978), business models have a more elementary character. A business model is based on the features of a commercial product or service. As such, it is an integral part of business operations and underlying foundations. Business models also involve financial flows, towards which a commercial product or service can succeed.

Business models need to be universally understood in the context of the value chain of a product or service as a value that is added gradually, that is in each step of its content creation, manufacturing, management, sales and distribution, as demonstrated by Porter (1985). The importance of value chains in the context of business models is well-grounded in the significance for the consumer, who will make the decision to accept and ultimately buy a product or service. Business models are of particular importance for new products or services, within industries with significantly changing environments (Picard, 2000). Thus, as the industry in which a company operates changes, so do the factors that account for a business model. For example, factors that — once supported a new product's successful business model — can become obsolete as the industry changes and may then be altered or rejected to support different business models. This does not mean that abandoned or less successful business models cannot be successful in the future,

especially if the former underlying circumstances no longer exist. In such cases, business models can be reintroduced successfully for existing or new products and services.

### **2.5.2 Definitions of business models**

This section represents a literature review on the definitions of a business model. The term business model has been defined in a variety of ways in previous research literature and, currently, there exists no consensus on its meaning (Jägers et al., 2007). The definition employed by Magretta (2002) has often been cited: business models are “*stories that explain how enterprises work*” (p. 4). Linder and Cantrell (2000) put forward a similar description: “*the organisation’s core logic for creating value*” (p. 2). Another definition refers to a business model as “*a set of planned activities — sometimes referred to as business processes — designed to result in a profit marketplace*” (Laudon and Traver, 2009, p. 66). Applegate (2001) refers to “*a description of a complex business that enables study of its structure, the relationships among structural elements, and how it will respond in the real world*” (p. 53). Timmers (1998) has a more detailed definition of business models as “*the architecture for the product, service, and information flows, including a description of the various business activities and their roles*” (p. 2). The description of numerous business activities and their roles are included as well as the description of the possible benefits for the different business actors and the description of the determinants of revenues (Timmers, 1998). Similarly, Osterwalder and Pigneur (2010) provide a textbook definition, wherein a business model “*describes the rationale of how an organisation creates, delivers and captures value*” (p. 5). However, both researchers focus more on the value proposition by adding “*the value of a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital in order to generate profitable and sustainable revenue streams*” (Osterwalder and Pigneur, 2010, p. 10). Another definition based on the value proposition is provided by Seddon et al. (2004): “*a business model may be defined as an abstract representation of some aspect of a firm’s strategy*” (p. 14). Academic strategists use the term to describe the configuration of resources towards a particular strategic orientation (Picard, 2000; Küng, 2008). Business definitions involve the recovery of costs generated by the production of products and their distribution to customers (Johnson, 2010).

When systematically analysing the various definitions of the term business model from several researchers, it was clear that almost all definitions encompassed two common themes in relation to e-commerce literature: revenue streams and value creation. These



elements were the most heavily focused on by all the authors and, as a result, may be the most important aspects in a company's business model. In this study, the value a business creates for customers is of particular importance, as value creates demand and the customer ultimately makes the consumption decision based on their demand. Therefore, it is fundamental for companies to have comprehensive knowledge about their own business models as they affect consumer behaviour and, ultimately, create profit and help to maximise revenue (Laudon and Traver, 2009). However, some research suggests an opposing view, that *"the other elements are actually equally important when evaluating business models or plans, or when attempting to understand why a particular company has succeeded or failed"* (Laudon and Traver, 2009, p. 9).

It is clear to see that the multiple definitions of a business model are too fragmentary. There is a need for a comprehensive definition and consensus on the meaning of a business model. A further problem is that business models are very often not industry-specific (Alt and Zimmermann, 2001). The main limitation to this study is that no definition concerning micropayments could be identified, notably in an online news context. Thus, in this study, the researcher uses the definition put forward by Osterwalder and Pigneur (2010), as the main characteristics in their presentation of the term business model were well-supported. First, the value a company provides its customers clearly advocates the importance of the consumer being key to the use of new business models (like micropayments), though this assertion may only be true for specific consumer segments as Osterwalder and Pigneur (2010) state. Second, when approaching micro-transactions, companies seek to generate revenues on top of or as an alternative to existing business models. Third, the press company must market and transport the rationale behind micropayments in order to achieve both of the latter features.

Companies can only be successful when they understand their own business model and sufficiently align it to their strategic positioning for a unique brand by building a distinctive value to their business and their customers (Porter, 1985; Christensen, 2001). How newspapers remain competitive by introducing new business models is described in the following section.

### **2.5.3 Changing business models for newspapers**

As discussed above, revenue streams are a major theme of business models. Traditional business models for newspapers consist of circulation revenue and print advertising (Mitchell et al., 2016). It is no surprise that the newspaper industry is changing and will

face different challenges and circumstances to the 20<sup>th</sup> century. With the advent of industrial revolution and urbanisation in the mid-to-late 19<sup>th</sup> century, newspaper business models turned to a mass audience and efforts were accordingly moved to advertising revenue (Picard, 1999). This increased emphasis on advertising revenue can be seen in the way it was evenly balanced with circulation revenue by 1880, rising to two thirds by 1921 (Field, 2006). By the turn of the millennium, newspapers earned up to 80% of their revenue from advertising (WAN-IFRA, 2015). The continuous growth in readers and the corresponding increase in advertising support led to relatively steady numbers until after World War II — a portion of reading audiences turned to TV instead and advertising revenue began to fall. With emerging digital disruption, global newspaper advertising has declined annually since 2011 and, having reached a tipping point in 2016, revenue circulation has exceeded advertising revenue (PwC, 2016c).

Since the early-21<sup>st</sup> century, newspaper managers have been facing the challenges of emerging and potentially disruptive technologies. Disruptive technologies are described as “*science-based innovations that have the potential to create a new industry or transform an existing one*” by Day and Schoemaker (2000). A drawback to this terminology is the triggering of a ‘science-based’ technology and thus the neglect of the function of a business model, which in turn disregards any relationship to the industry. On the contrary, with reference to the news industry, Saksena and Hollifield (2002) recommend the definition of a disruptive technology as a technology that changes how existing news is produced or promoted. This can also come in the form of a ‘technology-based information product’ that threatens the current existence of a newspaper. Smartphones and the popular Apple iPad as well as internet usage have disrupted the widespread business model of the printed newspaper (Christensen, 2011).

This development clearly shows the news publishing sector has not always operated on the same business models and that its relationships to readers and advertisers have shifted over time. Thanks in part to these revenue shifts, newspapers across the world are in a transition phase between a print past and a digital future. Publishers are facing challenges — and getting opportunities — when it comes to adapting to changing business models. As a result, fundamental questions about the optimal business balance are being raised. For example, what does it take to continue the basic activity of providing information in an environment that is alive with digital content? How can newspapers remain a trusted medium in a world that is full of ‘alternative facts’ on social media? How can newspapers continue to attract consumers to their content regardless of their location and preferences

regarding how it is consumed? Moving forward, what will become of their business models in terms of revenue portion between circulation, advertising and other streams?

When answering these questions, it is important to consider the previously described revenue shifts, but also to take into account revenue from both print and digital. With global newspaper advertising predicted to decline at 2.9% per year, the revenue balance will shift away from advertising towards consumer revenue (PwC, 2016c). As more newspapers move online and the consumer demand for digital news content increases, business models for online news are acquiring vital importance when it comes to maintaining or gaining competitive advantage, which will be discussed in the next section.

#### **2.5.4 Business models for digital news**

The newspaper industry has long been experimenting in order to evolve a viable business model for digital news and “*initially took a haphazard approach to their online product*”, as stated by media management researchers (Graybeal and Hayes, 2011). The approach was based on an internal view that online content was seen as a complement to print content, rather than a standalone product (Saksena and Hollifield, 2002). In the past, many online business models have thus been similar to traditional business models, channelling their profitability efforts mainly into subscription and advertising, transactional and bundled (Mings and White, 2000). By 1999, less than 20% of online newspapers had adopted e-commerce and pay-per-use models and less than 3% were subscription-based (Chyi and Silvie, 2000). Although media experts had already noted that revenue streams other than advertising and subscription are essential for the sustainability and profitability of digital newspapers (Mitchell et al., 2016), many traditional organisations struggle to leave their former operations behind and move into profiting from online business models (Anthony and Gilbert, 2005). In the 2000s, newspapers implemented non-monetary advertising models to their online readership (Graybeal and Hayes, 2011). Later on in the 2000s, newspapers gave content away for free online, generating a consumer base that was very attractive to advertisers. Keeping in mind the increase of internet usage, the main criticism of this approach is that newspapers did not charge for their online news content. Despite the online advertising revenue generated, these revenue streams have not outweighed the loss in print advertising revenue (Covey, 2010). Therefore, current models have not solved all of the issues the new digital world has created, despite changes in business models.

Literature further suggests that advertising revenues are constrained by consumer behaviour. First, consumers may reject digital advertisement as they instead rely on friends' recommendations — this is often considered to be more credible (Li and Bernoff, 2008). Second, consumers can get their information from other, non-commercial online sources and thus do not need online advertising (Clemons, 2009). Clemons (2009) proposes that paid business models must be added to the revenue mix, though advertising will likely remain a crucial revenue stream for online newspapers. Potential online business models exist that are not based on advertising. Online newspapers have experimented with these, as in the cases of subscription and transaction-based models.

Mings and White (2000) state numerous variations on newspapers' subscription models including flat rates, tiered content schemes and subscriptions for specialised content. Newspapers are searching for alternative business models to monetise their digital content, including subscription variations and micropayment options, but a winning model has yet to be established. Following the success of Apple's iTunes, newspapers approached transaction-based models resembling micropayments, wherein the publishing organisation earns revenue by selling content to consumers (Enders et al., 2008; Graybeal and Hayes, 2011).

In summary, literature review and industry experience have shown that online advertising profits cannot compensate for the advertising revenue lost as a result of the digital disruption. As a consequence, newspapers are experimenting with various alternative and innovative online revenue models. Existing research indicates that metered paywalls and the micropayments model as charging methods for online content have the greatest potential in the newspaper industry (Sindik and Graybeal, 2011; Geidner and D'Arcy, 2015). The current research focuses on micropayments for online news and shows capability to be the business model of choice among consumers.

## **2.6 Micropayments**

### **2.6.1 Definition of micropayments**

In order to define micropayments, a clarification on the term payments is required. Payments are defined as the “*transaction in which monetary values are transferred from one party (payer) to another party (receiver) directly or via an intermediary such as a bank*” (Dahlberg and Mallat, 2002, p. 651). The transfer of funds through payment systems has become fundamental with the emergence of e-commerce (Hassinen et al., 2008). One successful type of payment system is the micropayment system: an e-

commerce transaction of a small amount of money in exchange for a digital good (Burelli et al., 2011).

In order to properly clarify the term micropayment, the related terms of digital goods and virtual goods must first be defined. In the context of e-commerce, a digital good is generally an item that is stored, delivered and used electronically. Typically, digital goods are ‘shipped’ in their electronic format to the customer via email or can be downloaded from the web. After the online purchase of a digital item, and once the merchant has received payment, the customer will be provided with the item through a secure link or an email attachment. Classic examples are e-books, music files, software, digital images, website templates, manuals in electronic format and other items that can be electronically stored in a single file or different files. Given the characteristics above, the category of digital goods comprises content from newspaper websites and online news content.

In literature, digital goods are sometimes referred to as virtual goods. The term ‘virtual goods’ describes ‘real things’ such as characters, items or currencies that are purchased to enhance online games and social networks (Lehdonvirta, 2009). Examples of virtual goods include the purchase of avatar pictures that can be used by players or a picture of flowers that can be sent to someone, mimicking a real-life bouquet.

### **2.6.2 Micropayments for digital news**

A micropayment for digital news occurs when digital users are charged a small amount to access the newspaper’s online content. Typically, the micro-transaction is for paid content on a news website such as an article or story (McGarvey, 2001), similar to buying a song on iTunes or an Android app in the Google PlayStore. Cosmin Ene, CEO of LaterPay, strongly supported micropayments in journalism by arguing:

*“[Micropayments] will be the thing that increases the funnel for publishers. We need to be giving publishers tools to package their content differently.”*

*(Willens, 2017)*

News companies initiated micropayment systems as business models in the 1990s when they started to publish news online. At the time, the payment model failed to gain consumer traction due to two factors: the huge amount of free content available online (Sindik and Graybeal, 2011) and infrastructure problems, such as security issues, lack of anonymity and performance (Dai et al., 2001).

The acceptance of micropayments has already been achieved within niche journalism. Salmon (2012) states that the business model of Matter, an US journalism start-up for scientific journalism, charges 99 cents for each article. Another example is the German tech website Geolem, which charges readers a micropayment amount of EUR 1 for three days of use, allowing them to trial the service before taking out a full subscription (Sterbenz, 2015). Doctor (2010) describes that non-monetary micro-transactions were also introduced for some US mainstream news portals. For example, The Boston Globe provided free access to six of their popular photographs, while more photos could be viewed by answering a consumer survey. According to the micropayment provider LaterPay, 2016 was the year of breakthrough, as many news portals introduced these services, including bigger players such as Hamburger Morgenpost, Frankfurter Rundschau and Spiegel (Ene, 2017).

### **2.6.3 Types of newspaper micropayments**

Several types of micropayments for online news exist. One access option named pay-per-view provides the reader the opportunity to select individual articles. Once the user finds relevant stories, they can pay upfront for it on a per-unit basis. A newspaper micropayment can also come in the form of a flat daily (or day pass) to access all online news content for 24 hours. For example, one type of daily pass allows a user to browse all relevant articles from a news archive over one day. Access options include a flat x-daily (x-days pass) or monthly fee (monthly pass). It is not comparable with the purchase of the digital version of the newspaper for the respective day — the PDF version or web paper — which can be accessed offline afterwards once downloaded or printed out. Another popular micropayment scheme, called credit ‘card’ (or wallet), lets the visitor of a news website buy x credits for a certain amount. When the reader reads articles, a number of credits is subsequently deducted from the card’s balance. Thus, the user has to buy a minimum of x credits first before they can read their bundle of articles of the newspaper universe. In this way, it is similar to a pre-paid mobile telephone. The method allows the user to select individual stories, similar to the pay-per-view option, but they can decide on the composition for themselves (Bleyen and Van Hove, 2007). The read-now, buy-later micropayment scheme has recently evolved; notably, readers only pay once they hit a certain amount, e.g. 5 EUR. The news provider defers the moment when the user must register and pay for the service, allowing them to read and enjoy the content, quality and benefits (Wang, 2016).

#### 2.6.4 Micropayment amount

Originally, micropayments were envisioned to involve very small amounts of money to be transacted, less than USD 1. While online consumers are willing to pay tiny sums for specific types of content, like music and film, the question of the exact amount that online news content is worth remains open (Mitchell, 2007). A transaction fee may be too high to make small payments worthwhile for some online news content sellers. Shirky (2000) has also expressed concerns that the transaction fees sometimes exceed the price for the online (news) content offered, whereby purchases of less than USD 1.50 are not worth the transaction. This claim is not well substantiated, as the number of users willing to pay is the cornerstone of opposing statements on the acceptable size of micropayments in academic literature. According to Loechner (2009), respondents are willing to accept online charges ranging from as low as USD 1 to as wide of USD 27.50 per month. Verme and Benavides (2013) support these findings as they define the micropayment amount as “usually around USD 6.50” (p. 2). However, their definition lacks justification for the price level provided. Burelli et al. (2011) define the financial transaction of low values “below EUR 5 (USD)” (p. 1), but do not explain the reason behind this estimation. In a report about security issues around mobile payments, Isaac and Zeadally (2014) classify the payment amount of micropayments as between USD 0.11 and USD 10, while transaction amounts less than USD 0.10 are declared as picto-payments and amounts exceeding USD 10 are macropayments (p. 39). Another study on news consumption in personalised news aggregators found an optimal price point of EUR 1.88 and a price range of up to EUR 6.83 for monthly use (Oechslein and Hess, 2013).

In the news industry, current prices for an online edition of a newspaper vary, which is highlighted in the following examples. First, the Canadian Winnipeg Free Press — the first North American paper to introduce a micropayment structure — lets readers pay by article. The average number of users who pay by article are spending about CAD 2 per month (American Press Institute, 2016), with each story costing CAD 0.27 (Winnipeg Free Press, 2017). Second, LaterPay, a technical service provider supplying paid online content providers with some major clients in the news industry (Spiegel Plus, GEO, VNR Verlag, G+J, Frankfurter Rundschau), offers payment options such as pay-per-use, time passes or micro-subscriptions starting at USD 0.05 as well as single sales for online purchases starting at USD 1.99 (LaterPay, 2017). One of LaterPay’s clients, the German publisher Spiegel Online, offers single stories for EUR 0.39 in a read-now, pay-later access option, until the limit of EUR 5 has been reached, as well as a week-pass at EUR

3.90 (Spiegel, 2016; Wang, 2016). Third, the news platform Blendle, which aggregates articles from a variety of magazines and newspapers, offers a credit card (wallet) access option to top up credit between EUR 5 and EUR 150. Articles range usually from EUR 0.15 to EUR 0.90 (price points vary by country), with a few stories above EUR 1 (Blendle, 2017). Fourth, PayPal's micropayments are typically average less than GBP 5 (~ USD 6.15) (PayPal, 2017). Fifth, the Boston Consulting Group (BCG) conducted a survey of 5,000 consumers in nine countries, with the average consumer willing to pay USD 5 for online news (BCG, 2009). Sixth, in Switzerland, Basler Zeitung offers the e-paper version of the newspaper of the day in question for CHF 2 per edition within a 10, 50 or 100-edition stack (BaZ, 2018). Lastly, Tagesanzeiger recently started selling day passes at CHF 2, providing 24 hours of unlimited access to all digital content on Tagesanzeiger.ch (Tagesanzeiger, 2018).

As a result, the definition of micropayment amounts in both research literature and industry practice is wholly inconsistent. The price ranges provided are not related to a specific access option or industry context, nor do they involve a local focus. There is no specific definition for the Swiss news industry. Although USD 1 or less (~ CHF 1) appears to be a popular price, it does not seem appropriate for use in this study, as most Swiss online shops and news providers do not offer products and services of CHF 1 or less. The researcher suggests addressing this research gap for future micropayment-related studies.

### **2.6.5 Scientific views on micropayments**

Highly relevant research studies and literature support the idea that micropayment models for digital online news have the potential to be the business model of choice for consumers. A Nielsen survey in 2010 sampling more than 27,000 consumers in 52 countries found that 34% of newspaper readers would consider paying for online content. Among those surveyed, just over half (52%) would favour micropayments over full-service subscriptions and individual transactions (Covey, 2010). Although it may be tempting to use a more manageable system for micropayments, only 43% mention an easy payment method makes them more likely to pay for digital content. In turn, the Nielsen study also found that nearly eight out of 10 (79%) said they "*would no longer use a website that started charging for access, presuming they can find the same information at no cost*" (Evangelista, 2010). The Evangelista study found that "*that sentiment was highest — 85 percent — in North America*" (Evangelista, 2010). The authors of this study concluded that consumer use of paid online content remains a work in progress.



The results from the Nielsen study compare with the findings from Sindik and Graybeal (2011). The researchers surveyed undergraduate and graduate students in the US, analysing how willing consumers are to make micropayments for online news, with a focus on whether brand loyalty impacts readers' willingness to pay newspaper micropayments. The study found that 50% of the digital natives were willing to pay some amount to read content in an online newspaper, with 27% willing to pay between 1-5 cents per article, 15% to pay 6-10 cents per article, 3% willing to pay 11-15 cents per article, 1% would pay 16-20 cents per article, 3% to pay 21-25 cents per article and 0.9% to pay more than 26 cents per article. This means that the majority (83%) of those willing to pay — or 41% of the total participants — are willing to pay a 10-cent price point or less per article. The study found also that there is a statistically significant link between brand trust, brand loyalty and the willingness to pay for online content. Brand loyalty also had a positive relationship to consumer willingness to adopt micropayments (Sindik and Graybeal, 2011).

The Boston Consulting Group carried out a study investigating consumers' willingness to pay for online news (BCG, 2009), which surveyed 5,083 consumers in nine countries, including Switzerland's neighbouring countries France, Germany and Italy. The study found that consumers are willing to spend a moderate amount — around USD 5 a month — to receive online news on a PC or mobile, though responses for the average amounts varied per country and survey segment. For example, heavy print newspaper consumers in Italy and Spain are willing to pay the highest amount of all countries, at USD 8, while light or non-print newspaper readers in these countries would only pay USD 3 and USD 2 respectively. The highest amount that users are willing to pay for online news applies to content that is unique, timely and convenient. Respondents are very strongly interested in unique content that is described as local and community-specific news (67%), news archives (63%), personalised online news (55%) or subject-specific in-depth editorial (55%). Timely online news content, such as continuous news alert service (e.g. real-time delivery of breaking news) (54%) is also of high interest. Finally, customers responded very positively to convenient content of online news, such as news archives (63%), personalised online newspaper from different sources and customised daily news services (e.g. delivery by 9am everyday) (51%). BCG stated that the willingness to pay for online news will not fundamentally shift newspaper industry economics as it would only raise consumer revenues by 2-3% in comparison to advertising revenues (BCG, 2009).

Another article published by Graybeal and Hayes (2011) examines the idea of a micropayment model for newspapers on the social web. The article analysed existing literature on micro-transactions and examines theories from different areas of research, such as media management, behavioural economics and computer information systems. The proposed model, named modified news micropayment model, included determinants that make micropayments attractive for newspapers to implement into the social web. Unfortunately, this study is of no direct use to this study, due to its primary focus on the monetisation of social media.

Resistance to micropayments and critics to their potential also exist. The criticism arises from three sources (Geidner and D'Arcy, 2015): *“lack of scarcity in online news, the mental transaction costs of micropayment schemes, and the lack of a stable method for processing small payments”* (p. 4).

The first barrier, scarcity, does not and will not exist on the web if the numerous news portals continue to produce online content for free, as is demanded by their digital consumers (Mutter, 2009). Mutter goes on to state that one criticism of the viability of micropayments is that there is no reason for users to pay for digital content, even if the amount were as low as a penny.

Regarding the second barrier, Szabo (1999) argues that micropayments raise fundamental barriers to customers due to mental transaction costs associated with a transaction. Before buying a news article, the user is required to make a decision on whether the story is worth the cost or not by going through an informal profit-loss analysis. The user has to weigh the pros and cons in a complex cognitive process, which is not what they want to do before reading an article (Shirky, 2003). However, this view is unsubstantiated, as scenarios in the news industry exist where a purchase decision does not have to be made with every article read. For example, Spiegel Online charge their digital clientele only once they have reached the amount of EUR 5 (Spiegel, 2016). Until that price limit has been reached, their users can read as many stories as possible. The mental transaction cost would then not be present for the selection of stories and the user will not go through the cognitive decision process. Furthermore, a micropayment model for a newspaper could be set up in a way that specific online content will be charged for while the rest of the platform remains free. The specific content may be of particular interest to the user (e.g. consumer reports, local community news) so that the news consumer *“would not be cognitively overwhelmed by having to negotiate a purchase decision with every click”*

(Geidner and D'Arcy, 2015). Thus, Shirky's criticism (2000, 2003) that micropayments could never work for the news industry lacks adequate evidence.

The third barrier is that of a stable method for processing the payments of the micro-transactions. Amounts can range from as small as a few cents, to as large as a few Euros and, as such, require a proprietary method that aggregates small amounts. Credit cards are not currently a suitable payment-processing method (Smith, 2003); however, it can be argued that newspapers can make use of existing payment systems to charge for their articles. For example, they could use the infrastructure of mobile app payments in the app store in which the app is available. Publishers could also use the payment-processing infrastructure of phone bill alternatives to experiment with micropayments. Ultimately, it depends on the ways in which individuals use digital news content. Academic research must seek to examine consumer behaviour to understand how the product — news content — can be monetised.

The purpose of this section was to describe micropayments in their capacity as business models and clarify their alignment between consumer revenue and advertising revenue streams. As companies need to gain a sustainable competitive advantage, it is fundamental for them to have comprehensive knowledge about their own business models and those that they compete with. Micropayments for online news are a promising way of supporting these goals. In terms of consumer acceptance, there is a wealth of literature and research studies depicting the relationship between micropayments and the use of them, albeit in a somewhat contradictory manner.

## **2.7 Consumer perspectives**

Consumer perspectives seek to be understood and are worth exploring when discussing micropayments. As seen in section 2.4, the consumption of content is the last stage in the value chain. Traditionally, the consumers of newspapers were those reading the printed edition. Since newspapers have started to create content for a various number of publishing channels, newspaper readers are not necessarily readers of the printed edition (Appelgren, 2004). According to Ihlström (2004), national newspapers have gained a new type of audience: non-readers of the printed edition. Hedman et al. (2005) explain differences in audience segments between different publishing channels and media, while outlining the ways in which the audience has limited time and money to spend on media consumption. Thus, it can be assumed that there is clear potential for micropayments specifically for online news. Reading a small piece of online content, such as an article,

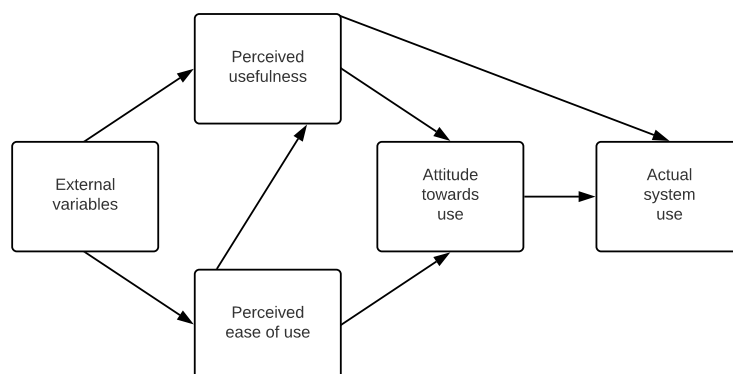
requires little time and is also accessible at a low price, as determined by the characteristics of micro-transactions.

### 2.7.1 Consumer perspective towards micropayments

An examination of the development of micropayments shows that the key to acceptance lies in the hands of consumers (several authors, e.g. Szabo, 1999; Shirky, 2000, 2003; Herzberg, 2003; See-To et al., 2007; Mutter, 2009; Graybeal and Hayes, 2011; Sindik and Graybeal, 2011). These studies and their results clearly demonstrate that the general preconditions are favourable for customer acceptance of micropayments of online news. Indeed, the researcher believes this to be crucial, and thus finds the acceptance and actual use of concrete micropayment services to be the decisive factor for a market penetration. However, this represents not only a barrier to entry, but also a major failure risk in the path of converting the general attitude of micropayments to definite acceptance and use.

Since the driver of the use of micropayments for online news is the consumer, the question of the determinants influencing the use of a micropayment arises. To state the obvious, merchants will only follow consumer preferences on payments and paid content use procedures if advantages outweigh respective disadvantages. The researcher believes that the consumer acceptance of micropayments is crucial for the survival of the newspaper industry in the era of digitalisation and that the underlying theory on which to build this proposition is the Technology Acceptance Model, developed by Davis firstly in 1985 and refined in 1993 (as shown in Figure 2.2).

**Figure 2.2: Technology Acceptance Model**



Source: Davis (1985, 1993).

The following sections of this literature review will expand further on the TAM as applicable to this research and show how the various testable operational hypotheses were evolved.

While the acceptance model was discussed in a variety of literature (e.g. Davis, 1985; Venkatesh and Davis, 1996; Sidnik and Graybeal, 2011), most determinants can be summarised into two dimensions: system characteristics and individual differences (Davis, 1993; Venkatesh, 2000). The research model proposed in this study will use three variables for system characteristics and two variables for individual differences. System characteristics are potentially related to the perceived usefulness and the perceived ease of use, and were identified as external variables in former studies on TAM's theoretical concepts in the IS and IT contexts (Davis et al., 1989). With regard to micropayments for online news, the following system characteristics were identified to offer advantages over online payments: mobility, compatibility and convenience. Individual differences in the digital news sector combine personal preferences with the intention to use payments of small amounts for online journalistic content; here innovativeness and knowledge were identified (Kim et al., 2010).

### **2.7.2 Consumer attitudes towards mobile payments**

A number of research studies have been conducted on the factors driving consumer acceptance of information technologies following user acceptance models. Recent studies have shown that the TAM construct, has evolved into the most popular model (Chau and Hu, 2001). While the original TAM model was created to explain IS system use in the workplace, recent studies have followed the lead of the TAM construct to explain user intentions in the context of innovative technology services.

A number of these studies have looked at mobile payments (Dahlberg et al., 2003; Hwang, 2004; Chen, 2008; Gerpott and Kornmeier, 2009; Schierz et al., 2010; Chandra et al., 2010; Kim et al., 2010; Anthony and Mutalemwa, 2014) and electronic payments (Ming-Yen Teoh et al., 2013) from the user acceptance perspective, the intention to purchase mobile apps (Hsu and Lin, 2015) and consumer attitudes towards mobile marketing (Gao et al., 2012).

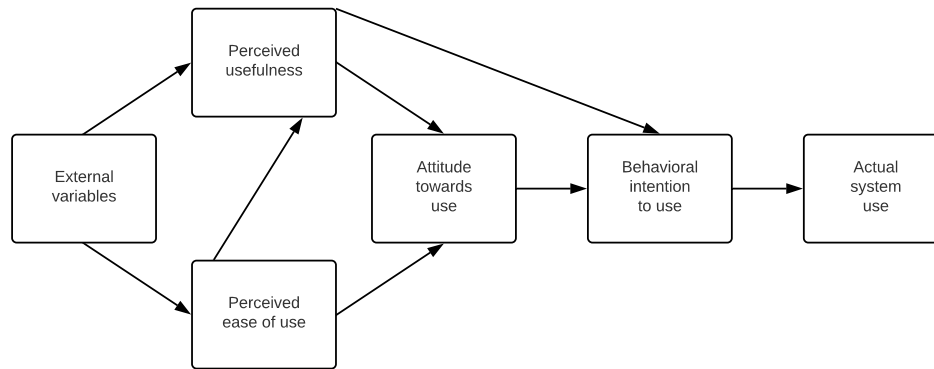
These studies have mainly focused on TAM, with additional concepts for their studies of mobile or payment related issues such as: trust (Dahlberg et al., 2003; Mallat, 2007; Gerpott and Kornmeier, 2009; Chandra et al., 2010; Ming-Yen Teoh et al., 2013; Anthony and Mutalemwa, 2014; Liew et al., 2016), enjoyment (Hwang, 2005; Liew et al., 2016), security concerns (Mallat, 2007; Chen, 2008; Gerpott and Kornmeier, 2009; Schierz et al., 2010; Ming-Yen Teoh et al., 2013; Cobanoglu et al., 2015), privacy concerns (Gao et al., 2012), risk (Mallat, 2007; Chen, 2008; Gerpott and Kornmeier, 2009) and risk

avoidance (Gao et al., 2012), benefits (Ming-Yen Teoh et al., 2013), self-efficacy and subjective norm (Davis et al., 1989; Schierz et al., 2010; Cobanoglu et al., 2015), personal attachment (Gao et al., 2012; Ming-Yen Teoh et al., 2013; Liew et al., 2016), expressiveness (Anthony and Mutalemwa, 2014), mobility (Anthony and Mutalemwa, 2014), brand loyalty (Sindik and Graybeal, 2011), convenience (Kim et al., 2010), experience (Cobanoglu et al., 2015), social context (Hsu and Lin, 2015; Liew et al., 2016), performance (Hsu and Lin, 2015), emotional reference (Hsu and Lin, 2015), involvement (Gerpott and Kornmeier, 2009), innovativeness (Chen and Adams, 2005; Gerpott and Kornmeier, 2009; Kim et al., 2010; Gao et al., 2012), value for money (Hsu and Lin, 2015) and compatibility (Mallat, 2007; Chen, 2008; Kim et al., 2010; Cobanoglu et al., 2015). The sheer magnitude of influencing factors on mobile payments indicate the complexity of the construct, as suggested by Tornatzky and Klein (1982) and Mallat (2007).

The studies mentioned above have contributed to the understanding of user acceptance determinants and consumer behaviour, as specifically related to mobile payments and mobile marketing. The mobile payment studies identified here provide a set of relevant factors driving consumer acceptance; however, no such set exists for micropayments. Furthermore, only a rudimentary understanding of the combination of factors influencing consumer acceptance and innovative subscription model for online news content exists. As suggested by Sindik and Graybeal (2011), further empirical research is required on the subject of micropayment acceptance, especially from consumer and managerial perspectives.

Moreover, as in previous studies, the researcher uses the concept of behavioural intention to use as a proxy for consumer acceptance as suggested by Venkatesh and Davis (2000). Their refined TAM model is shown in Figure 2.3.

**Figure 2.3: TAM model with extended ‘intention to use’**



Source: Venkatesh and Davis (2000).

The next section presents the literature related to the antecedents of the TAM model as a basis for this study research. As a result, the researcher has developed a research framework with a series of hypotheses to be tested.

## **2.8 Antecedents of the research framework**

In the following section, the dependent variable and the antecedent factors that build the conceptual research framework have been described.

### **2.8.1 Intention to use**

Following the work of Venkatesh and Davis (2000), the main dependent variable employed is intention to use, which is defined as the likelihood that a person will actually use the information technology. Intention to use has been a key determinant in well-established user acceptance research (Davis et al., 1989; Taylor and Todd, 1995; Venkatesh and Davis, 2000). However, little is known about the intention to use micro-transactions. It is proposed that a consumer's ultimate acceptance of micropayments for online news is primarily driven by intention of using them, which is the outcome variable in this study. The goal of this study is to understand use as a dependent variable and the role of the intention as that of a predictor of behaviour, i.e. the actual use.

### **2.8.2 Attitude towards the use**

When considering TAM, its proven properties and excellent measurement characteristics, the main antecedent is an individual's attitude towards using an information technology (Fishbein and Ajzen; 1975; Davis et al., 1989), which acts as a combining construct of the influence of the other variables on intention to use. Attitude implies a number of accessible behavioural beliefs (Carter and Yeo, 2017). Attitude towards using an information system is the degree to which a consumer rates a technology positively or

negatively (Davis et al., 1989). Several studies have found positive relationships between the attitude towards using a technology and the intention to use it (Davis, 1989; Davis et al., 1989; Davis, 1993). Therefore, even though TAM was originally constructed to predict information system use, the variable attitude towards using a technology can be applied to measure consumer acceptance. Since the attitude towards using an IS system can be employed in a variety of settings, this research adopts this structure and extends the original research framework to the study of micropayments. Thus, it is hypothesised that the attitude towards using micropayments is a key mediator of the intention to use micropayments:

**H1:** The attitude towards using micropayments will have a positive effect on the intention to use micropayments.

### **2.8.3 Perceived usefulness**

Consumer attitude towards a technology is grounded on the perceived usefulness of the system (Davis et al., 1989). The definition of perceived usefulness is “*the degree to which a person believes a certain system will help perform a certain task*” (Bruner and Kumar, 2003, p. 553). Users will use the system if they find online micropayments useful for their reading needs. The evaluation of whether or not to participate in micro-transactions follows a rational, deliberate assessment of the benefits for these services (Gao et al., 2012). Perceived usefulness has been a strong determinant of user acceptance in previous TAM studies amongst consumer adoption context (Davis, 1989; Davis et al., 1989; Fenech, 1998; Lederer et al., 2000). Former e-payment mobile payment studies have also employed perceived usefulness in their research constructs (Gao et al., 2012; Ming-Yen Teoh et al., 2013; Anthony and Mutalemwa, 2014). For the sake of consistency with former studies, the researcher argues that the perceived usefulness of micropayments for consuming digital news information and accessing paid website content directly influences their attitude towards micropayments. Therefore, the researcher proposes that perceived usefulness is a key predictor of the attitude towards the use of micropayments:

**H2:** Perceived usefulness will have a positive effect on the attitude of micropayments.

### **2.8.4 Perceived ease of use**

Recent studies point out that the perceived ease of use is predicted to improve users’ attitudes toward technology system usage (Davis et al., 1989; Venkatesh and Davis, 1996; Wang and Li, 2012). From a consumer perspective, a technology or system will be considered as more useful when it is easier to use, because greater use decreases the likelihood of errors (Flavian and Guinaliu, 2006) and greater usability reduces the



searching costs, favouring a better comprehension of the online services (Bakos, 1997). According to Gerrard and Cunningham (2003), customer interactivity is a key determinant towards the attraction of e-payments. Additional features such as quality designs, graphics or colours and the portrayed reputation of the e-payments provider will enhance the use of online services (Pikkarainen et al., 2004). With regard to the study topic, perceived ease of use describes consumers' beliefs of the ease of use with which micropayments help them to access digital news information, download articles from publishers and access website content about current and previous news topics (Bruner and Kumar, 2005). This research showed that fun enjoyed while using a mobile device has a powerful influence on attitudes towards use. These reasons lead to perceived ease of use and subsequently influence consumer's perception of micropayments. Hence, the following hypothesis is proposed:

**H3:** Perceived ease of use will have a positive effect on the attitudes of micropayments.

### **2.8.5 System characteristics**

System characteristics are defined as a category of external variables that have the capability of influencing consumer intention to use a new IS (Davis, 1989). Davis (1993) and Venkatesh (2000) proposed that objective design characteristics of a system have a direct effect on perceived usefulness and also on the perceived ease of use. Former research on TAM showed a strong relationship of system characteristics towards the intention to use information services in both users' beliefs (Davis, 1993; Venkatesh & Davis, 1996). Various mobile payment system features have been verified to affect the use of mobile payment (Kim et al., 2010). Micropayment system characteristics are also assumed to be critical in affecting the use of micropayments for online news. As mobile traffic for online news and the purchase of content online grows and micropayments gain particular importance for mobile commerce (Huang et al., 2016), it becomes necessary to identify micropayment system characteristics and evaluate their individual effect on the perceived usefulness and ease of use of micropayments for online news.

With regard to online traffic access through mobile devices, which continues to gain prominence over desktop traffic for newspapers (Mitchell et al., 2016), the unique characteristic of mobility provides advantages over conventional online payments (Kavassalis et al., 2003). The assumption, regarding the approach in which the acceptance of micropayments will be affected by different system characteristics, however, has yet to be proven empirically. Therefore, this study will help to clarify the system

characteristics of micropayments for online news as external variables of TAM. The detailed explanations of micropayment system characteristics are described in the following sections.

#### **2.8.5.1 Mobility**

Given the trend towards an increasingly mobile society, mobility is a key advantage of information technology. Mobility indicates that users can carry a mobile device, such as a mobile phone, tablet or even laptop virtually anywhere within a mobile network (Dahlberg et al., 2003; Mallat 2007; Au and Kauffmann, 2008). Previous studies supported the link between usability and the intention to use mobile apps (Ding and Chai, 2015; Carter and Yeo, 2017). The biggest advantage of mobility lies in its inherent character — an independence of time and place (Kleinrock, 1996). Customer acceptance is a decisive factor for payments through mobiles (Pousttchi and Wiedemann, 2007), particularly in conjunction with the rise of mobile news consumption (Newman et al., 2016). The characteristic of mobility is an extremely pertinent topic in the discussion of digital news payments. With online news consumption shifting to mobile, even outpacing desktop use (Mitchell et al., 2016), the dimension of mobility is predicted to enable micropayments for online news anytime and anywhere.

While the mobile attributes of individuals are significantly related to mobile payments in related research (Schierz et al., 2010), researchers also utilise micropayments as case scenarios (Eisenmann et al., 2006; Pousttchi, 2008). Moreover, a research survey among 16,000 internet users (mainly Germans, but with a few from Austria and Switzerland) found that two thirds prefer micropayments and low macro-payments — ranging from EUR 0.05 to EUR 50.00 — as their preferred mobile payment method (Speedfacts Online Research GmbH, 2001). According to Au and Kauffmann (2008), many mobile payment providers have already started to target the micropayment segment and expect their payment systems to eventually replace cash and credit cards. Therefore, the study suggests a positive link between mobility and perceived usefulness and perceived ease of use towards micropayments for online news.

**H4:** Mobility will have a positive effect on the perceived usefulness of micropayments.

**H5:** Mobility will have a positive effect on the perceived ease of use of micropayments.

#### **2.8.5.2 Compatibility**

The original TAM model will be extended by the factor compatibility, which is predicted to be a crucial innovation determinant driving the consumer use of micropayments for

online news content. Compatibility of innovation is defined as “*the degree to which an innovation is perceived as being consistent with the existing values, past experiences and needs of the receivers.*” (Rogers and Shoemaker, 1971, p. 352). Tornatzky and Klein (1982) suggest compatibility to be an important factor driving consumer acceptance. Agarwal and Prasad (1997) found that compatibility has a significant relation to internet usage. The majority of current research has been from a consumer point of view for mobile payments (Kim et al., 2010; Schierz et al., 2010). As an innovation in progress, micropayments play a critical role in the development of payment systems for consumers. Thus, the researcher proposes that compatibility is a valuable extension to the TAM framework. Previous research proved positive relationships to both perceived usefulness and perceived ease of use in a mobile activity context (Mallat and Dahlberg, 2005). Thus, the researcher predicts that compatibility has an indirect effect on users’ intention to use micropayments through perceived usefulness and perceived ease of use.

**H6:** There is a relationship between compatibility and the consumer’s perceived usefulness of micropayments.

**H7:** There is a relationship between compatibility and the consumer’s perceived ease of use of micropayments.

### **2.8.5.3 Convenience**

Convenience as a research feature has been discussed in the context of online purchases and e-commerce (Srinivasan et al., 2002) and is described as generating benefits to consumers by providing them with time and place utilities (Clarke III, 2001). Such a benefit of a technology is given “*only with the purpose of making life easier for people and taking away the pain of unpleasant tasks and activities*” (Obe and Balogu, 2007). Convenience related to consumer behaviour has been discussed for web services (Bhatnagar et al., 2000) and a number of studies found convenience of payment to be a determinant in consumer acceptance and use of mobile payments (Chou et al., 2004; Dewan and Chen, 2005; Chen, 2006; Mallat, 2007). Correspondingly, Eastin (2002) identified perceived convenience and financial benefits prior to adoption of e-commerce activities, such as online shopping, online banking, online investing and online services. Similarly, Lee (2009) has shown that the perceived benefits of online payments have a strong effect on the intention to use e-payments and that these benefits thus have a significant impact on consumer decisions when considering online payments. While the economic benefits of adopting e-payment, including low transaction fees, were studied by Gerrard and Cunningham (2003), the perception of online payments in relation to economic benefits was not confirmed. However, since many online payments involve

micropayments, low fixed costs and transaction fees are essential to the popularity of e-payment systems (Chou et al., 2004; San-Martin and Lopez-Catalan, 2013) and consequently to its success. Recent studies have identified various advantages of e-payment means, including the value of transactions (Chakravorti, 2003). With the birth of digital wallets and online payments, convenience is a motivation factor for digital newspapers to provide simple, web-based interfaces of micropayment services (Roy et al., 2006).

Going from the above definition and characteristics, convenience is a combination of time and place utilities. These are elements of micropayments insofar as news consumers can make micro-transactions anytime and anywhere, provided they have internet access. Micropayments also are intended to make life easier for users, who want to access digital news content without paying a high subscription fee. As it is essential to provide consumers with beneficial means of micropayments, the researcher hypothesises that convenience should exert a positive effect on the perceived usefulness and perceived ease of use on micropayments for online news:

**H8:** Convenience will have a positive effect on the perceived usefulness of micropayments.

**H9:** Convenience will have a positive effect on the perceived ease of use of micropayments.

### **2.8.6 Individual differences**

The original TAM model does not conceptualise the linkage between individual reactions to using information technology and intentions. This occurs as a critical gap in the original model and plays a key role in the explanation of the limitations of TAM (Venkatesh et al., 2003). The gap has led IS researchers to extend the original TAM framework by integrating how and why individuals adopt to new technologies, which increased the explanatory power of the key relationships within the model. Several research streams have been developed within this area of inquiry, one of which focuses on individual acceptance of IS success (Bagozzi, 2007; Sun and Zhang, 2006; Agarwal and Prasad, 1999), while another emphasises information technology (Igbaria et al., 1997). In terms of consumer research, individual differences were related to wireless internet use (Lu et al., 2003) and buying behaviour (Shavitt, 1989). Recent studies have identified two constructs that play an important role in IS and mobile payment services: innovativeness and knowledge (Bhatti, 2007; Chen et al., 2000). However, none of these personal factors have been tested on micropayments specifically related to the newspaper industry. To address this limitation, this study will extend TAM to include these two

individual differences in order to enhance the understanding of the micropayments for online news.

#### **2.8.6.1 Innovativeness**

The concept of innovativeness from Midgley and Downling (1978) is defined as “*the degree to which an individual is receptive to new ideas and makes innovation decisions independently*” (p. 236). Other researchers refer to innovativeness as the extent to which consumers perceive the newness of new experiences, information and technology and the speed with which they adapt to the innovation (Roehrich, 2004). This definition is aligned with the research by Agarwal and Prasad (1998), in which they showed that individual innovativeness is a variable influencing on usefulness perception. Existing literature by Roehrich (2004) mentions four forces that explain high innovativeness among consumers: need for stimulation, novelty seeking, independence toward others’ communicated experience and need for uniqueness. Other researchers have found that personal innovativeness has a big impact on online purchasing decision (Yi et al., 2006).

With regard to micropayments, a study by Bokai and Mohammadi (2010) examined factors influencing micropayment adoption from NetPay through the diffusion of innovation, using simulation and mathematical approaches. The two researchers found that the diffusion of innovativeness — identified by the decrease of waiting time and low amounts of money per transaction — encourages consumers to adapt to new systems for NetPay micropayments. Most people are inexperienced with micropayments in relation to online news consumption and so innovativeness will play a key role in the adoption of new payment technologies. Considering the infancy of micropayments in the news industry, it is appropriate to relate personal innovativeness positively with the perceived use of micropayments in the study. Therefore, if innovativeness is a factor influencing use of micropayments in Switzerland, then the following proposition will be confirmed:

**H10:** There is a relationship between innovativeness and the perceived usefulness of micropayments.

#### **2.8.6.2 Knowledge of micropayments**

Given that consumer adoption of micropayments was addressed in only a few research studies, the researcher’s goal is to find out whether a relationship exists between the knowledge of micropayments and the intention to use them. Consumers with a reasonable level of micropayment knowledge for online news are expected to find micropayment services easier to use than those without such knowledge. Searching for information on

the internet has become a habit in everyday life. Internet users who are confident in looking for information online use their web experience and their knowledge to facilitate their information processing and to differentiate between relevant and irrelevant information (Rieh, 2004). Given the popularity of the internet as a major news source (Mai, 2016), it is essential to understand how those consumers who already use payment services — or who are not willing to pay high amounts for digital news content subscriptions — would be exposed through the acceptance of micropayments for online news. This research study attempts to investigate the impact of micropayment knowledge on the perceived ease of use of micropayments for digital news, especially with the little amount of research existing on this subject. To confirm the effects of micropayment knowledge towards the use of micropayments, the following hypothesis is proposed:

**H11:** Knowledge of micropayments will have a positive effect on the perceived ease of use of micropayments.

## **2.9 Literature summary**

This section closes the literature review chapter by providing a summary of the main points in the literature identified as relevant to this research study and describing how TAM will be utilised as its underpinning theory.

Academic literature and industry reports have shown that the rise of the internet has shaped the media landscape and led to a transition from traditional media to new media. The newspaper sector was profoundly affected by the advances in technology of the 1950s, which ultimately led to a change of consumer behaviour and consequently, a fall in print circulation and a decline in print advertising incomes. Over the course of digital transition, newspapers started publishing news online in the 1990s, thus expanding their traditional news products to online news through innovations such as digital news services and complementary products. As a result, publishers were forced to create viable business models in order for digital news to gain a sustainable competitive advantage. Developing and adapting business models has become increasingly important to the news publishing sector as environments shift and products continue to change over time (Picard, 2000). Although no consensus on the meaning of business models exists in research literature, especially in relation to the newspaper sector, two common themes relating to profit models have been identified: revenue streams and value creation. This has raised the pertinent question of how newspapers can maximise their revenue for online news content by inventing revenue models that create value for customers (Laudon and Traver, 2009). Micropayments for online news represent an area of growing promise

for modern newspapers. The micropayment business model allows newspapers to gain a competitive advantage by creating a situation-specific and optimised balance between consumers' revenue and advertising revenue stream. This simultaneously allows consumers to personalise their consumption and payments, thereby generating the maximum value for both themselves and the newspaper (BCG, 2009; Covey, 2010; Evangelista, 2010; Graybeal and Hayes, 2011).

Although there are a reasonable number of studies in the field of attitudes and electronic payments (Pavlou, 2003; Ming-Yen Teoh et al., 2013), previous work on digital payment models has focused mainly on consumer attitudes towards mobile marketing practices (Gao et al., 2012) and intention to purchase mobile apps (Hsu and Lin, 2015). In contrast, research into consumer use of micropayments is far less pronounced. A number of research studies have been conducted on the factors that drive consumer acceptance of mobile payments as information technologies (Dahlberg et al., 2003; Hwang, 2004; Chen, 2008; Gerpott and Kornmeier, 2009; Chandra et al., 2010; Kim et al., 2010; Schierz et al., 2010; Anthony and Mutalemwa, 2014). These studies have mainly employed the TAM framework, with the addition of mobile or payment factors.

The TAM construct consists of two antecedents — perceived ease of use and perceived usefulness — which are predictive of a consumer's intention to adopt a technology. One recent study (Kim et al., 2010) developed a model based on the core TAM, which examined the effect of consumer intention to use mobile payments, drawing a line between system characteristics and individual differences.

To address the paucity of academic research on consumer use of micropayments, the researcher has first drawn on the extended TAM model as a starting point and then empirically refined the elements relevant to the micropayment context. In this study, the researcher introduced mobility, compatibility and convenience as system characteristics, adding innovativeness and knowledge about micropayments as personal differences. Following the TAM theory, the researcher selected perceived usefulness and perceived ease of use as two key determinants of consumer acceptance of micropayments and the attitude towards the use of micropayments as a dependent variable (Davis, 1989). By analysing IS and mobile service literature on these two principal categories of external TAM variables, operational hypotheses were developed to assess specific system characteristics and individual user motivation to accept micropayment variables that may

affect both the perceived usefulness and the perceived ease of use. In Chapter Three, the researcher discusses how the literature has informed the initial research concept.



## CHAPTER 3: LITERATURE SYNTHESIS

The previous chapter reviewed the literature on newspapers and the news industry while paying particular attention to online news, mainly in the Swiss market. It stated the context of value chains, micropayments as business models, consumer perspectives and acceptance models with a specific view on the TAM construct. Drawing from the literature, it also provided an overview of the factors that influence consumers' use of online micropayments and its resulting relations. This chapter synthesises this content and presents how the antecedents have been derived from the literature review. Furthermore, it visualises the conceptual model initially developed as fundamental to exploratory research.

### 3.1 Derivation of original antecedents and moderating variable

As a starting point of the research concept, the Technology Acceptance Model from Davis (1985) was introduced, which aims to explain the original antecedents of technology acceptance and user behaviour through computer technologies. The model proposes how users accept and use an IS when they are presented with a new technology. The studies of Venkatesh et al. (2003) and Venkatesh and Davis (2000) have shown that the key factor for actually using an IS is the intention to use, which has been widely used as the fundamental factor in user acceptance research (Davis et al., 1989; Taylor and Todd, 1995; Venkatesh and Davis, 2000). The original TAM model posits that two specific beliefs, perceived usefulness and perceived ease of use, are relevant for technology acceptance behaviour (Davis, 1985).

Recent studies on mobile and e-payment have evidenced that perceived usefulness and perceived ease of use are primary antecedent variables of user acceptance and user behaviour (Kim et al., 2010; Gao et al., 2012; Ming-Yen Teoh et al., 2013). Related TRA work by Fishbein and Ajzen (1975) found variables similar to the perceived usefulness and perceived ease of use linked to attitudes and intention to use. Their study has shown that an individual's attitude is significantly correlated towards a particular behaviour (e.g. buying on the web) towards using an information technology. Thus, the attitude to the use of a technology acts as a moderating construct of the two key determinants towards the intention to use. Research on the topic of mobile devices has confirmed a positive response to the perceived usefulness of the attitude toward mobile marketing (Gao et al., 2012). In a mobile commerce technology context, the perceived ease of use was proved as an indirect determinant helping consumers access digital news information, download

articles from publishers and access website content from current and previous news topics (Bruner and Kumar, 2005). This research showed that the fun of using a mobile device was a powerful factor in attitudes towards use, while the usefulness itself had no direct effects on the behavioural intention. The results of these research studies underpin the use of attitude towards an information system as a combining construct towards the intention to use for the purpose of this study.

The relationships named above have contributed to the understanding of user acceptance of the antecedents related to information systems and technology behaviour. Mobile payment studies provide a relevant set of determinants driving consumer use as a starting point for this research analysis of micropayments. It is also strongly related to the study of micropayments and the information is often suggested to help facilitate them in electronic commerce (Begonha et al., 2002; Di Pietro et al., 2015). Thus, the observations above lead to the following hypotheses:

#### **Hypothesis 1**

**H<sub>0</sub>:** The attitude towards using micropayments will not have a positive effect on the intention to use micropayments.

**H<sub>1</sub>:** The attitude towards using micropayments will have a positive effect on the intention to use micropayments.

#### **Hypothesis 2**

**H<sub>0</sub>:** Perceived usefulness will not have a positive effect on the attitude of micropayments.

**H<sub>1</sub>:** Perceived usefulness will have a positive effect on the attitude of micropayments.

#### **Hypothesis 3**

**H<sub>0</sub>:** Perceived ease of use will not have a positive effect on attitudes of micropayments.

**H<sub>1</sub>:** Perceived ease of use will have a positive effect on attitudes of micropayments.

### **3.2 Derivation of external variables**

While the TAM, constructed with its original and moderating antecedents, functions as an initial point in this research study, the researcher extended the model with external variables that affect consumer perceptions drawn from the reviewed literature. Two categories of variables have shown a strong relationship with the intention to use information services in former research: system characteristics and individual differences, which operate as external variables of the TAM model (Davis, 1993; Venkatesh and Davis, 1996; Venkatesh, 2000).

#### **3.2.1 Derivation of system characteristics**

Kim et al. (2010) suggested a link between various system features and mobile payment use. With the increase in mobile traffic for online news and the growing purchase of

content online, micropayments gain increasing importance especially for mobile commerce (Huang et al., 2016; Mitchell et al., 2016). However, a clear link between different system characteristics in relation to the approach of the attitude of micropayments has yet to be empirically approved. In a mobile payment context, the three system characteristics of mobility, compatibility and convenience have been identified from the literature reviewed for the purpose of the study to be tested as external variables in consumer perception regarding the use of micropayments.

First, as a key factor of information technology due to its inherent ubiquitous character, mobility showed a clear link towards the perceived ease of use for early adopters in a previous mobile payment study from Kim et al. (2010). The work of Schierz et al. (2010) stated a relationship between mobility attributes of individuals and mobile payments, while Eisenmann et al. (2006) and Pousttchi (2008) suggest micropayments utilised as case scenarios in this context. Thus, the researcher developed the following hypotheses:

#### **Hypothesis 4**

**H<sub>0</sub>:** Mobility will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Mobility will have a positive effect on the perceived usefulness of micropayments.

#### **Hypothesis 5**

**H<sub>0</sub>:** Mobility will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Mobility will have a positive effect on the perceived ease of use of micropayments.

Second, compatibility as a relevant factor to users' beliefs with respect to the consistency of an innovative technology (Rogers and Shoemaker, 1971) is an important determinant driving consumer acceptance (Tornatzky and Klein, 1982). Agarwal and Prasad (1997) have provided evidence of a direct link of compatibility and internet use. In their publication about success factors for e-business, Mallat and Dahlberg (2005) have suggested a relationship between compatibility and both the perceived ease of use and perceived usefulness in a mobile activity context. Micropayments are believed to be a crucial innovation determinant driving consumer acceptance for online news content (BCG, 2009; Time, 2009; Evangelista, 2010; Graybeal and Hayes, 2011; Salomon, 2012). Therefore, compatibility is predicted to have a positive effect on consumer's perceptions and attitude toward and intention to use micropayments:

#### **Hypothesis 6**

**H<sub>0</sub>:** There is no relationship between compatibility and the consumer's perceived usefulness of micropayments.

**H<sub>1</sub>:** There is a significant relationship between compatibility and the consumer's perceived usefulness of micropayments.

### **Hypothesis 7**

- H<sub>0</sub>:** There is no significant relationship between compatibility and the consumer's perceived ease of use of micropayments.
- H<sub>1</sub>:** There is a significant relationship between compatibility and the consumer's perceived ease of use of micropayments.

Third, convenience as a feature benefitting consumers' time and place utilities (Clarke III, 2001) is a strong driver of consumer behaviour for web services (Bhatnagar et al., 2000) and mobile payments (Chou et al., 2004; Dewan and Chen, 2005; Chen, 2006; Mallat, 2007). Convenience has been measured as an essential factor to the usefulness of mobile payments for late adopters (Kim et al., 2010). Research also states that micropayments are intended as a way to motivate digital newspapers to provide consumers with simple, web-based interfaces (Roy et al., 2006) and thus this research study should display a positive relationship on the perceived ease of use and perceived usefulness for online news:

### **Hypothesis 8**

- H<sub>0</sub>:** Convenience will not have a positive effect on the perceived usefulness of micropayments.
- H<sub>1</sub>:** Convenience will have a positive effect on the perceived usefulness of micropayments.

### **Hypothesis 9**

- H<sub>0</sub>:** Convenience will not have a positive effect on the perceived ease of use of micropayments.
- H<sub>1</sub>:** Convenience will have a positive effect on the perceived ease of use of micropayments.

## **3.2.2 Derivation of individual characteristics**

The second principal category of external variables, individual differences, extends the TAM model by integrating how and why individuals adopt new technologies. Previous consumer behavioural research on personal characteristics was related to information systems (Agarwal and Prasad, 1999; Sun and Zhang, 2006; Bagozzi, 2007) and information technology (Igbaria et al., 1997). Studies on mobile payment services have shown a positive functionality between personal features, the attitude towards mobile marketing and the intention to use mobile payment (Kim et al., 2010; Gao et al., 2012). Two individual features were carved out from the previously reviewed literature, neither of which had been formerly tested in the micropayment context.

First, innovativeness as the extent to which a consumer is receptive to new ideas (Midgley and Downing, 1978) has been a fundamental determinant in consumer acceptance research (Roehrich, 2004) and among online purchasing decisions (Yi et al., 2006). Innovativeness has proven to be a direct function of the perceived usefulness, as shown

by Agarwal and Prasad (1998). Bokai and Mohammadi (2010) have reported a relationship between the diffusion of innovativeness — identified by decreased waiting time and low amounts of money per transaction — and the adoption of micropayments. Through a test group of late adopters, Kim et al. (2010) discovered that users with highly innovative characteristics found micropayments to be easy to use. Given the innovative character of micro-transactions in terms of online news consumption, it is appropriate to suggest the following proposition:

#### **Hypothesis 10**

**H<sub>0</sub>:** There is no relationship between innovativeness and the perceived ease of use of micropayments.

**H<sub>1</sub>:** There is a relationship between innovativeness and the perceived ease of use of micropayments.

Second, knowledge of micropayments in a consumer behaviour context has been addressed only in a few studies. For example, in the study of Kim et al. (2010), mobile payment users with significant micropayment knowledge have easily adapted to mobile payment services. Given the way consumer internet use has increased through consumers searching for information online by utilising their knowledge in order to facilitate their information processing (Rieh, 2004; Mai, 2016), it is predicted that consumers with knowledge of micropayments will have no difficulty in using them. To confirm the positive relationship towards the perceived ease of use, the following hypothesis is proposed:

#### **Hypothesis 11**

**H<sub>0</sub>:** Knowledge of micropayments will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Knowledge of micropayments will have a positive effect on the perceived ease of use of micropayments.

### **3.3 Conceptual model**

Grounded on the review of literature on the increasing significance of micropayments, their potential impact on the news industry and their competitive advantage in Switzerland, the study's research question and objectives are restated:

- What are the factors that influence consumers' use of online micropayments in the Swiss newspaper industry?

Building on the research question, the research objectives are to examine the determinants of the acceptance of micropayment use as perceived by online news consumers in

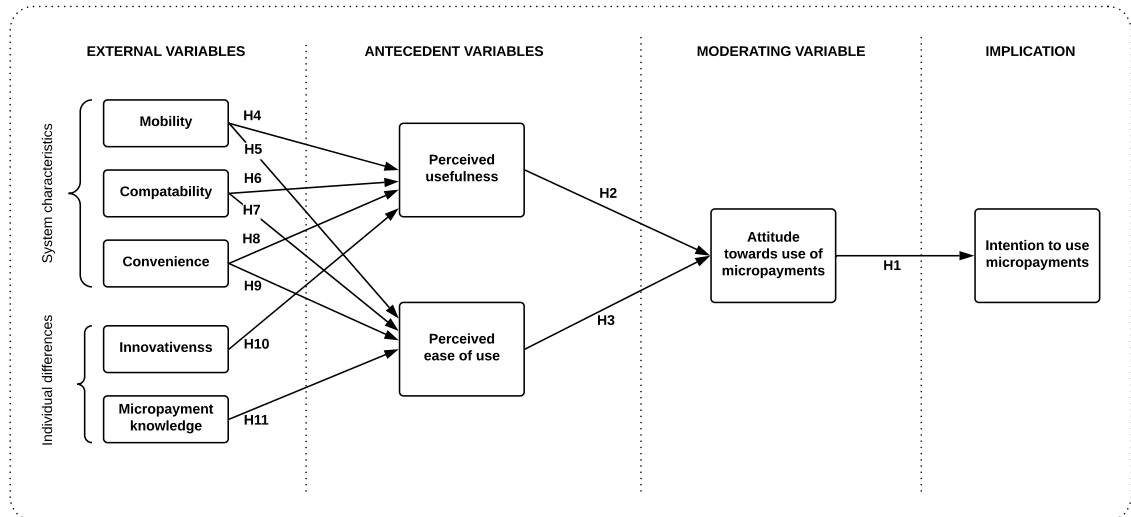
Switzerland and to identify additional factors that influence consumer use towards them. The following four research objectives are restated:

1. Based on a literature review, to develop a conceptual model that investigates the impact of factors relating to mobile payment practices on consumers' attitudes towards the intention to use of micropayments.
2. Based on the research on the Swiss newspaper industry, to discover and implement additional system characteristics and individual features unique to micropayments.
3. To empirically examine the influence of existing and new factors on micropayment use in the Swiss newspaper consumer market and validate the results.
4. To make recommendations based on the results from objectives 2 and 3, both from a consumer and industry expert's perspective, that will enhance revenue from digital content.

With a view to answering these objectives into motion, a number of hypotheses were devised. Various direct and indirect functionalities aimed at the perceived usefulness and perceived ease of use of online micropayments have been identified. These functionalities can be summarised as follows: mobility, convenience and compatibility as external system characteristics; innovativeness and knowledge of micropayments as external individual differences. Attitude towards the intention to use micropayments has been found to play an essential role as a moderating variable and thus, it also is included in the conceptual model.

Drawn from the literature synthesis, the operational objectives stated on pages 52 – 56, an initial conceptual model was constructed (see Figure 3.1).

**Figure 3.1: The initial conceptual model**



Source: Figure by author, adapted from Davis (1985), Venkatesh and Davis (2000), Venkatesh et al. (2003) and Kim et al. (2009).

Owing to the novelty of micropayment research, especially in the context of online news in Switzerland, the researcher aims to identify additional external variables that enhance the initial conceptual model. Based on research objective 2, the researcher has operationalised additional hypotheses concerning the two consumer perceptions regarding the attitude and intention towards using micropayments. These new external variables may belong either to system characteristics or to individual differences. As such, they can both be considered independent variables affecting the intention of using micropayments and also variables dependent on the original antecedent variables of perceived usefulness and perceived ease of use. Therefore, the following hypotheses are proposed:

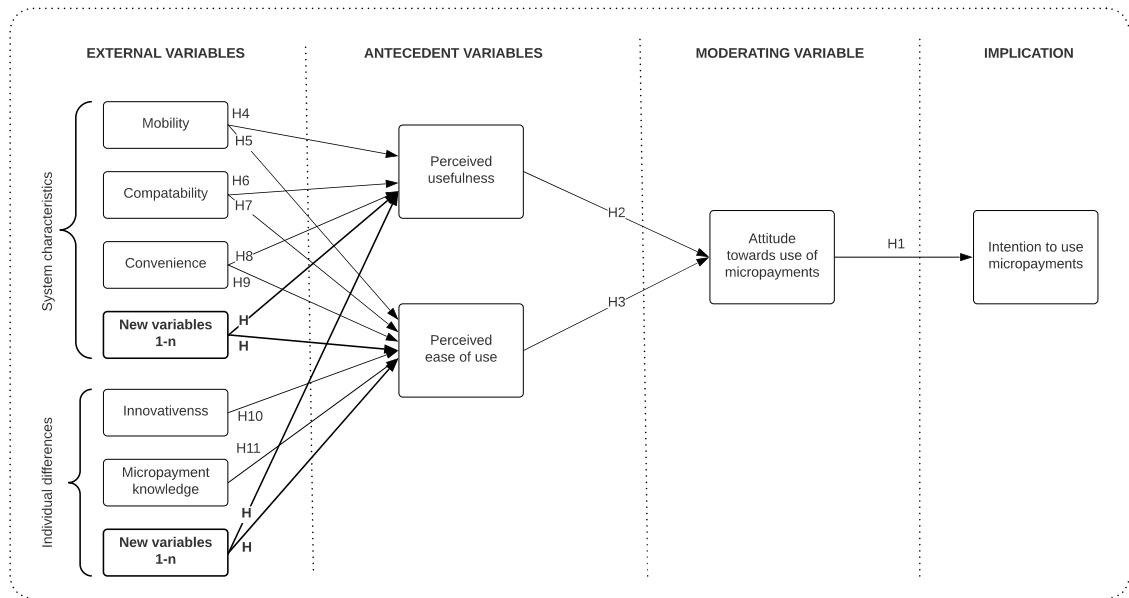
**Additional Hypotheses 12-n**

- H<sub>0</sub>:** Additional external variables of system characteristics will not have a positive effect on the perceived usefulness of micropayments.
- H<sub>1</sub>:** Additional external variables of system characteristics will have a positive effect on the perceived usefulness of micropayments.
  
- H<sub>0</sub>:** Additional external variables of system characteristics will not have a positive effect on the perceived ease of use of micropayments.
- H<sub>1</sub>:** Additional external variables of system characteristics will have a positive effect on the perceived ease of use of micropayments.
  
- H<sub>0</sub>:** Additional external variables of individual differences will not have a positive effect on the perceived usefulness of micropayments.
- H<sub>1</sub>:** Additional external variables of individual differences will have a positive effect on the perceived usefulness of micropayments.

- H<sub>0</sub>:** Additional external variables of individual differences will not have a positive effect on the perceived ease of use of micropayments.
- H<sub>1</sub>:** Additional external variables of individual differences will have a positive effect on the perceived ease of use of micropayments.

These additional operational hypotheses extended the initial conceptual model and are presented in the refined conceptual model in Figure 3.2.

**Figure 3.2: The refined conceptual model**



Source: Figure by author, adapted from Davis (1985), Venkatesh and Davis (2000) and Venkatesh et al. (2003).

### 3.4 Summary

Reflecting the above, this research argued that a knowledge gap exists in consumer acceptance factors towards the use of micropayments. This research aimed to address this absence by identifying factors influencing the usage of micropayments for online news in Switzerland. Drawing upon the construction of the theoretical TAM model, previous research has examined adoption factors that determine consumer use towards new technologies in related research areas. Research studies have examined external variables, antecedent variables and a moderating variable towards the intention of use in parallel studies, namely information systems, e-commerce and mobile payments. Since micropayment services are considered a new form of payment technology, existing literature on tangent mobile payments is used as a starting point for the investigation in this research. Over the course of the study, the researcher ran through various stages.



At the outset of the study, the researcher reviewed the literature from the similar study areas and identified direct and indirect determinants influencing the intention to use of a new technology. Resultantly, a set of five external variables influencing user acceptance and usage of the new technology were deduced, including three system characteristics (mobility, compatibility and convenience), two individual differences (innovativeness and knowledge), two antecedent variables (perceived usefulness and perceived ease of use) and one moderating variable (attitude towards the intention to use of a new technology). Relationships between these variables have also been carved out from existing literature on information systems, information technology, payment studies and mobile services. These determinants and their causal functionalities were connected to build the structure of the initial conceptual model of this research. Based on these relationships within the structure, the researcher operationalised hypotheses and specifically adopted them to the use of micropayments. The research aimed to test these operationalised hypotheses for micropayments in the context of digital news in Switzerland.

To assist the understanding of the initial conceptual model, the researcher distinguished the variables and implicated result into four categories that make up the use of micropayments. The four categories are (1) external variables, (2) antecedent variables, (3) moderating variable and (4) implications of each category relating to the previous category. The structure is briefly explained on the example of innovativeness (see 2.8.6.1): previous consumer behavioural research on personal characteristics (category 1) was related to information systems (Agarwal and Prasad, 1999; Sun and Zhang, 2006; Bagozzi, 2007) and information technology (Igarria et al., 1997). Studies on mobile payment services have shown a positive functionality between perceived personal features (category 2) and the attitude (category 3) towards mobile marketing and the intention to use (category 4) mobile payment (Kim et al., 2010; Gao et al., 2012). The assembly of the linked relationships and deviated hypotheses was drawn from the literature for each variable in the initial conceptual framework, executed in the same way as shown on the example for innovativeness.

The initial conceptual model comprised a total of 11 operationalised hypotheses, with eight hypotheses among the categories of (1) external variables and (2) antecedent variables; two hypotheses that link the (2) antecedent variables with the (3) moderating variables; one hypothesis that connects the (3) moderating variable with the (4) implication factor. The initial conceptual model was visualised in Figure 3.1 to help

understand the structure. This conceptual model constitutes a significant part for the use of micropayment services in an established publishing market. No such conceptual model exists at present. It also demonstrates that the construct is influenced by a complex set of variables.

For the purpose of this study, the researcher adopted a mixed methods approach involving both qualitative and quantitative techniques for data collection and analysis. The study followed two research stages involving one method in each stage. In the first stage, qualitative interviews with industry experts were carried out to investigate additional potential factors that determine consumer use towards micropayments for online news. The specific method of semi-structured interviews with open questions was applied to achieve deep and rich knowledge on the research topic and to allow supplementary phenomena to occur. These newly detected factors helped the researcher to refine the initial conceptual model by adding new factors to the research construct. These additional factors enhanced the conceptual model as they helped to understand integral perception factors contributing to the usage of micropayments and, as such, will guide newspaper companies in the strategy planning and implementation process. The resulting comprehensive conceptual model — named Alpha model as following — functioned as the basis for the subsequent research phase. Each hypothesised link in the Alpha model had to be tested individually, despite each of them having been gathered within in the second phase of the study.

In the second stage, the comprehensive set of variables was then empirically tested in a large quantitative web survey among NZZ.ch readers. The method used for this main study was the Partial Least Squares (PLS) analysis, which has experienced a surge in attention as it leads multivariate analysis technique in strategic marketing research (Hulland, 1999). According to Anderson and Swaminathan (2011), this analysis method is well suited for application to research in electronic markets (such as digital news for micropayments), primarily due to its methodological benefits, which bring researchers a thorough flexibility in modelling relationships (Vinzi et al., 2010; Hair et al., 2013). As utilised by Andreev et al. (2012) and Teo et al. (2015), PLS was applied to test causal relationships in consumer adoption factors for mobile payments. Given the novelty of micropayments and drawing on parallel views of mobile payments, this thesis aims to apply the variance-based Structural Equation Modeling, with regards to causal relationships in Switzerland. Thus, this study goes beyond the traditional alternative of covariance-based SEM (CBS-SEM), aligned with the study of Reinartz et al. (2009).

Although the PLS-SEM approach is considered complementary to the CBS-SEM approach, Hair et al., (2014) recommend applying PLS-SEM to exploratory research or an extension of an existing theory. Since this study has an exploratory character, it used PLS-SEM over CBS-SEM and follows the recommendation of Hair et al. (2014). The researcher used SmartPLS software (SmartPLS, 2017) for the model rather than AMOS software (Arbuckle, 2006), due to its advantages of its easy and intuitive user interface.

In conclusion, this research study aims to contribute to the usage of micropayments in the Swiss newspaper industry from a consumer perspective. Owing to the novelty of this research topic and the fact no investigation of the antecedents of online micropayments in the news industry has been undertaken — much less pertaining to the Swiss market — this study helped to address the research gap and will clarify the importance of different aspects of micro-transactions. Newspapers can refer to the research results in prioritising their efforts in online news with new business models and in integrating micropayments into their paid content strategy in order to build their competitive advantage. The implications for news organisations are therefore immense.

The following Chapter Four presents the methodology of the research study and explains how these operational hypotheses of the conceptual model are tested.

## CHAPTER 4: METHODOLOGY

This chapter provides a detailed description of methodological issues to be considered while examining business model strategies in consideration of consumer behaviour. The chapter begins with a discussion of the main philosophical paradigms in business and management research. In the second section, the strategic decision to use a positivist approach was suitable for this research will be clarified. In the third section, the two main research approaches are explained, followed by an explanation of the research design used in the fourth section. The topic of data collection is addressed in the fifth section and the sample strategy and sizes are described in the sixth section. Concerns about validity and reliability and how to ensure them are addressed in the seventh section. Data analysis methods are stated in the eighth section and the methodological process is described and visualised in the ninth section. The pilot study is introduced in the tenth section. This chapter closes with accessibility, research ethics and the conclusion.

### 4.1 Research paradigms

A research paradigm can be defined in various ways. Collis and Hussey (2013) state that it is “*a philosophical framework that guides how scientific research should be conducted*” (p. 43). Saunders (2011) defines a research paradigm as “*a way of examining social phenomena from which particular understandings of these phenomena can be gained and explanations attempted*” (p. 118). Bryman and Bell (2015) provide a more detailed definition: “*A paradigm is a cluster of beliefs and dictates which, for scientists in a particular discipline, influence what should be studied, how research should be done and how results should be interpreted*” (p. 35). These reveal different specific understandings, yet each definition fundamentally agrees with the common understanding of a paradigm as a set of beliefs, frameworks and philosophy that guides a specific research approach. Positivism and phenomenology are the two major research paradigms used in business research (Bryman and Bell, 2015), as will be outlined in the following sections.

#### 4.1.1 Positivism

Positivism is an epistemological theory that is based on knowledge and natural phenomena (Bryman and Bell, 2015). It is a highly structured, logical and objective concept that analyses realities by applying empirical methods based on observations and experiments (Collis and Hussey, 2013). Bryman and Bell (2015) state integral elements of the definition vary from author to author the following as the key commonly understood principles of positivism thus being (2015, p. 28):

- Only phenomena confirmed by the senses can genuinely be warranted as knowledge.
- The purpose of theory is to generate testable hypotheses and thus, will allow explanations of laws to be assessed.
- Knowledge is attained by gathering facts that constitute a basis for laws.
- Science must be conducted in an objective way.
- There is a strong difference between scientific and normative statements — only the former can be the true domain of a scientist.

In consumer behaviour research, the positivism approach holds good where knowledge is gained through applying scientific methods based on a sample of subjects, whose conclusions drawn from this method are then transferred to a larger group of subjects (Hudson and Ozanne, 1988). In other words, knowledge is derived from findings that can be scientifically verified. In this way, it is possible to provide a logical proof for rational assertions. Thus, researchers conducting business research in a positivist paradigm focus on theories to explain social phenomena; researchers assume that reality is independent of us, which means that social reality has no effect on the observed reality (Creswell, 2014). Although this assumption provides the basis for the explanation of phenomena, the positivism paradigm is not considered appropriate to explain social contexts in which people are observed (Collis and Hussey, 2013). For instance, it is impossible to truly comprehend certain activities without examining people's beliefs. The view may therefore minimise or neglect relevant findings related to people's perceptions, especially when highly structured research designs are applied. Resultantly, complex problems in a single measure may be misleading, especially in the field of business and management studies (Remenyi et al., 1998). Phenomenology is a paradigm that overcomes some of the shortcomings of positivism.

#### **4.1.2 Phenomenology**

In contrast to positivism, phenomenology examines complexities and incompatibilities in the real world involving people's reactions and concerns in respect to a specific event (Wallace and Pfab, 2012). It has been established due to perceived inadequacies in other theories to meet the needs of social scientists (Collis and Hussey, 2013). Phenomenology is grounded on the concept that social reality is highly subjective, since it is shaped by people's perceptions and beliefs. A phenomenologist researcher involves and interacts with the sample in the social world because it is impossible to separate it from the researcher's mind and its influence (Wallace and Pfab, 2012; Creswell, 2014). Under

phenomenology, the research approach will unfold during the course of the research. While positivism explores social phenomena, phenomenology investigates the complexity of social phenomena (Collis and Hussey, 2013). The phenomenologist researchers apply a range of methods that “*seek to describe, translate and otherwise come to terms with the meaning, not the frequency of certain more or less naturally occurring phenomena in the social world*” (Van Maanen, 1983, p. 9). In other words, findings are not derived from statistical analysis of quantitative data, but from qualitative methods that are based on the interpretation of qualitative research data. Table 4.1 summarises the differences between positivism and phenomenology.

**Table 4.1: Differences between positivism and phenomenology**

Assumption	Positivism	Phenomenology
Nature of reality	Social reality is objective, there is only one reality	Social reality is subjective, there are multiple realities
Researcher	Independent from phenomena under study	Interaction with phenomena under study
Source of knowledge	Objective evidence of observable and measurable phenomena	Subjective evidence from participants
Role of values	Value-free, unbiased	Value-laden, biased
Methodology	Deductive approach	Inductive approach
Data collection	Large samples	Small samples
Outcome	Produces precise, objective and quantitative data	Produces ‘rich’ subjective and qualitative data

Source: Adapted from Collis and Hussey (2013, p. 46f.).

These two main paradigms also have some similarities, as found by Onwuegbuzie and Leech (2005):

- Both paradigms use research questions as a starting point.
- Both paradigms use quantitative and/or qualitative methods for data collection.
- Both paradigms use various methods for data summary and reduction as well as data analysis.
- Both paradigms discuss the results of the data and draw conclusions.

Whether positivism or phenomenology are used in the research study depends on the underlying assumptions, the research area and the research problem.

## **4.2 Research paradigm applied to this research**

Considering that this paper is grounded within the context of consumer behaviour, this research is based on the positivist paradigm due to several reasons. First of all, the positivist approach has the objective of explanation and prediction. The researcher prioritised functionalities between variables in the conceptual model. Relevant literature on the subject of micropayments about factors affecting the use of micropayments of online news was reviewed and subsequently, the researcher framed a conceptual model of variables with a broad set of assumptions (Thompson et al., 1989). These variables needed to be explained and their predicted causal relationships had to be examined. The researcher aimed to achieve causal explanations among the variables, which could only be applied by using the positivism approach. Second, given the predictive nature of the positivist approach and the exploratory search for descriptions of the causal relationships, this approach created a link between theory and research — the object of which was to test the TAM model from parallel views and to develop a conceptual construct drawn from the literature. The conceptual model was used to guide the data collection method and to analyse the data of the construct. Third, this connection between theory and research was only possible in such a way that it is not influenced by pre-existing theories (Bryman and Bell, 2015). Owing to the novelty of the topic of micropayments, particularly in the context of Swiss online news, no theory exists yet for the focus of this study. Fourth, the research aims at identifying the factors perceived as important towards the use of online micropayments for newspapers. Through analytical data collection and analysis methods used in this study, the researcher was able to form conclusions about the specific behaviour of newsreaders, thus facilitating an explanation of social reality, if restricted to how the phenomena are connected.

## **4.3 Research approach**

Having identified the research paradigm, an important question was raised on whether the study should use a deductive approach or an inductive approach (Gil and Johnson, 1991).

Deduction is based on logical reasoning, which means a logical chain or process of events is developed to produce a result (Wallace and Pfab, 2012). Deductive reasoning sums up a sequence of actions with each following action being reinforced by the previous event that leads to the output or conclusion. In general, deductive research progresses with each distinct stage of the research project. Induction is different to deduction; here, the researcher observes events or actions first and then strives to explain them (Glaser and

Strauss, 1967). Inductive reasoning is based on the approach of “*Theories developed from empirical observations are more likely to be reliable than theories developed from chains of logic.*” (Wallace and Pfab, 2012, p. 3/29). If the researcher continually reuses results from the theory during the research process, causality seems logical.

It is often advantageous to combine deductive and inductive approaches (Saunders, 2011) and the researcher has made use of this in the study. So, while the research approach was mainly positivist, the research used mixed methods to address the research topic. First, since there is little existing literature on micropayments for online news, it was appropriate to debate with subjects and reflect upon what factors they perceive as beneficial to their use as well as to work inductively by generating subjective deep data and supplementary issues built on the theoretical framework (Saunders, 2011). The researcher gained a far better understanding of the research context from the individual subjects and their social context. Second, the deductive approach offers a scientific starting point for answering the exploratory research question in this study by formulating a theoretical framework with the linkage of variables to deduce specific results (Burrell and Morgan, 1979; Gil and Johnson, 1991; Malhorta et al., 2008; Wallace and Pfab, 2012). The deductive approach was thus considered to be appropriate because the study is based on the TAM framework and considers the factors of consumers perceptions towards the use of IS as well as linking causal relationships to the key variables in related studies. The section below discusses several theories from the inductive approach or the deductive approach and explains how these will meet the research objectives.

#### **4.4 Research design**

Research design is defined as guidance on collecting and analysing data (Churchill, 1991). It comprises of three dimensions forming the research design: research strategy, methodological choice and time horizon. These dimensions focus on the research design and curve the research question into a research project (Robson, 2002). The three dimensions are interpreted in the next three subsections and the motivation behind each is justified.

##### **4.4.1 Research strategies**

Collis and Hussey (2013) consider a number of different research strategies providing basis for the research design, including experiments, case studies, action research, grounded theory, ethnography and archival research. The principal research strategy selected for this DBA thesis is a primary data collection method of a web-based survey



and semi-structured interviews as a contributing method. Both strategies are described in the following paragraphs and further on, it is explained why other research options are not suitable for this thesis.

A survey is used to “*answer who, what, where, how much and how many questions.*” (Saunders, 2011, p. 114). Since any study of consumer behaviour constitutes an exploratory investigation, many surveys examine variables measuring consumers’ perceptions and attitudes (Wright, 2005). Of all survey instruments, web surveys are the most commonly used research method thanks to the fast development of the internet (Couper, 2000; Wright, 2005; Zhou et al., 2007). Web surveys also have the ability to achieve instant access with a wider audience with common characteristics, thus saving the researchers time during the data collection phase (Wellmann, 1997; Taylor, 1999; Llieva et al., 2002).

Interviews are one of the most frequently used survey research strategies, mainly because talking is perceived as natural (Griffiee, 2005). Interviews generate deep knowledge of the participants’ experiences and still allow for interpretation (Schultze and Avital, 2011). Owing to the novelty of the research topic, opinions are the most suitable source of information for obtaining specialised knowledge and experience from persons representative of the operating industry field. These arise from their actions, responsibilities, obligations or related function, making interviews a very beneficial and practical component of this research construct.

Other research strategies, namely case study, ethnography and experiments, were also considered as an option in this research project. Unfortunately, they were found to hold insuperable shortcomings and were disregarded as potential avenues of inquiry.

A case study strategy is defined as “*a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real-life context using multiple sources of evidence*” (Robson, 2002, p. 178). The phenomenon to be studied is often not found within a social science context, as it focuses on a particular unit, system or a specific interest within the real-life context (Saunders, 2011; Yin, 2013). This is a clear limitation compared to the survey strategy, where the research is undertaken within the consumer situation. Case studies also lack a systematic handling of data, which may lead to confusion around its collection and analysis (Yin, 2013). In contrast, survey strategies use structured techniques. Case studies can be very time

demanding to conduct, because there is a need for in-depth access to case sites. This was deemed incompatible with the research objectives of the thesis, due to time restrictions.

In experimental research, functionalities are studied between two or more variables; for example, whether the change of one independent factor leads to a change in the dependent factor (Hakim, 2000). Thus, an experiment requires an intervention within the condition and towards the change of the condition to be measured. As such, experiments are used more in explanatory research and answer questions of how and why (Saunders, 2011). The deliberate intervention of a situation or environment does not seem appropriate for this study due to conflicts with the conceptual model, such as subsequent hypotheses, methodology, design and the measuring process.

Ethnographic strategy describes a social context in a way that the research participants would do so. Since this strategy appears to require visiting and speaking to all news consumers and understanding their individual reasons for the way they use online micropayments, this strategy is not suitable for this study due to the time constraints (Saunders, 2011).

#### **4.4.2 Methodological choice**

The choice of research method to answer the research question is either grounded on one data collection method and the equivalent analysis technique (mono method) or on several data collection and analysis methods (multiple methods). The multiple methods comprise of techniques from either a quantitative or qualitative research approach. On the other hand, utilising methods from both quantitative and qualitative research domains is referred to mixed method choice (Saunders, 2011).

This study utilised mixed methods to generate results answering the research question. A qualitative approach was applied at stage one of the research thesis to identify external variables of the system characteristics and individual differences that specifically drive perceived ease of use and perceived usefulness of micropayments for online news. These newly-detected determinants extended the initial conceptual model of the research study and as such, acted as the foundation of the research path. Hence, the feedback from the key industry leaders in consumer, newspaper and micropayment strategies has combined the basics of the TAM model with the topic of micropayments. As a whole, however, this study primarily implemented a quantitative approach to test the causal relationships between all variables — the original antecedents and the newly identified factors —

towards the perceived ease of use and perceived usefulness of micropayments. Specific statistical techniques were applied for the analysis, as discussed in section 4.8.

In summary, while using semi-structured interviews with industry experts, comprising the qualitative element of the pilot study and stage one of the main study, the majority of the empirical analysis of the main study was conducted in the quantitative domain. The methods were used one after the other. Hence, mixed methods with sequential procedures were the methodological choice. This choice is deemed appropriate as it provides a comprehensive perspective to the research topic using the preliminary exploratory approach for refining the research framework and applying the findings to the panel of online newsreaders to confirm the causal functionalities.

#### **4.4.3 Time horizon**

Saunders (2011) specifies two different time horizons: cross-sectional and longitudinal research. The choice between the distinct time horizons depends on the research question. Cross-sectional research designs are observations made at a single point in time. In comparison, longitudinal research designs involve observations of the same variable through a period of time and use a series sequence of related studies. Longitudinal studies in research designs are carried out over long time periods, often several decades.

The cross-sectional research design for the study was chosen as a time horizon for several reasons. First of all, literature strongly suggests the use of cross-sectional surveys for business marketing practitioners and consumer behaviour studies (Kollat, 1970; Rindfleisch et al., 2008; Collis and Hussey, 2013), primarily because core consumer preferences don't change over a short time frame. Thus, consumer perceptions — such as motives, consumer characteristics and purchasing behaviour — on the usage of micropayments can be captured at a specific moment. Furthermore, the study did not intend to examine the change in the research construct, but rather the correlation of the construct relationships in the newspaper industry in Switzerland (Saunders and Lewis, 2012). Secondly, surveys often use cross-sectional designs (Robson, 2002; Saunders, 2011). Thirdly, cross-sectional surveys allow researchers to collect a large number of variables simultaneously. Fourthly, conceptual modelling usually requires a cross-sectional approach. Fifthly, contrary to longitudinal studies, which often need to last for several months or even years, cross-sectional research is less expensive due to its shorter research timeframe. In the following section, the researcher evaluates qualitative and

quantitative research methods. This is helpful for understanding which data needs to be collected and analysed in a meaningful way.

## **4.5 Data collection**

### **4.5.1 Qualitative and quantitative techniques**

Qualitative research techniques are associated with rich and complex concepts that study subjects in a social world (Robson, 2002). These complex phenomena between individuals cannot be easily presented in terms of variables and numbers. The focus in qualitative research is based on the understanding of people's perspectives and the interpretation of their views. Thus, this technique is appropriate for analysing standpoints, opinions, interactions and behaviour of subjects. The researcher can ask questions whose answers may prove useful for further investigation and, as such, allows the researcher to obtain deeper and more complete information (Saunders, 2011; Bryman and Bell, 2015).

The advantage of qualitative research is that it can be applied to studies where no established theory in the research topic exists (Bryman and Bell, 2015). Moreover, qualitative research can be usefully implemented during the initial phases of a single research study. This way, the researcher can take advantage of the initial findings collected and make changes to the conceptual research model at a later stage.

The disadvantages of qualitative research can be summarised as the relevance of validity, reliability and generalisability (Kilbourn 2006; Bryman and Bell, 2015). While internal validity describes how well a researcher's observations matches the theory under development, external validity describes how well results can be generalised among social phenomena. The latter is a problem for qualitative methods, as usually, only small samples are applied in case studies and interviews. The concern of generalisability is especially strong in qualitative cross-sectional and longitudinal studies (Bryman and Bell, 2015). Some researchers argue that generalisation from qualitative studies is important (Schmitt, 2001; Ercikan and Roth, 2009) and is possible for data collection methods such as case studies, as long as the data can be replicated for the purpose of generalising theoretical concepts (Yin, 2013). However, Yin (2013) also makes clear that the level of generalisation in qualitative methods is not related to statistical generalisation.

Quantitative research techniques are applied in research projects focused on the study of numbers and variables. In raw form, quantitative data does not have a meaning, and, as such, must be processed and analysed to become useful information (Saunders, 2011). Quantitative data underlies a high degree of objectivity based on subjects collecting and

analysing quantitative data. Quantitative research techniques are implemented to test theories and relationships using statistical methods. Although both research paradigms, phenomenology and positivism, can be attached to quantitative research, it is primarily associated with positivism (Bryman and Bell, 2015).

One of the main advantages of quantitative research is external validity. If the appropriate probability sampling procedures are in place, the results drawn from the sample can be reflected to the population. Also, since quantitative methods are highly structured with a high degree of objectivity in measuring items, other researchers can replicate data collected in quantitative studies. Furthermore, based on established theories, quantitative approaches are suitable for research hypotheses to be tested with conclusions that can be drawn on the results. Thus, quantitative research can be seen as a process beginning at theory and ending at conclusion (Bryman and Bell, 2015).

The crucial disadvantage of quantitative research is that it lacks the issue of meaning. Variables and numbers are collected rather than complex phenomena, which are subject to qualitative studies. However, it is questionable to which extent the quantitative researcher needs to understand complicated social situations by applying qualitative research projects, especially in fields like natural science (Bryman and Bell, 2015). Moreover, the researcher is detached from the sample and as such cannot communicate or interact with the participants. This way, the collected data is not rich enough to be interpreted or added to the subjective value of the researcher can be included into the data (Atieno, 2009). These shortcomings can be overcome by successfully combining quantitative research techniques with qualitative approaches, which is outlined in the following section.

#### **4.5.2 Data collection techniques for this research**

This research used a combination of qualitative (stage 1) and quantitative data collection processes (stage 2).

First (stage 1), the researcher met with a small group of individuals to collect views and statements on the research topic. The collection of the subjective data is possible only through qualitative methods. This allowed for interactions between the researcher and the subjects to clarify the meaning of their statements. The researcher used this method to understand the phenomenon of micropayment usage from the individual's perspective and used the knowledge for the initial research construct, which is a typical procedure for a study in a relatively obscure research field (Bryman and Bell, 2015). The aim of the

qualitative study was not to generalise findings and so a small sample was appropriate to use. The exploratory study also acted as the basis for subsequent quantitative research.

Second, the researcher then tested the factors provided by the individuals in the qualitative study and those drawn from the literature using a larger sample in a quantitative approach (stage 2). The subjects from the larger sample spoke about the factors important to them regarding their perceived attitudes towards micropayments, so the researcher could investigate whether the larger sample has the same view as the smaller group of individuals. Since the answers from a larger sample needed to be collected in a structured manner and where data could be measured and compared, there were no concerns about validity and reliability regarding qualitative methods.

The combination of qualitative and quantitative methods was suitable for this research as the topic of micropayments in online news is new. The researcher interacted with subjects to raise questions and clarify meanings in the interview phase, while examining and testing the causal relationships in the survey phase. The usage of multiple data collection methods is referred to as triangulation (Denzin, 1970; Flick, 2011; Collis and Hussey, 2013). The intention of triangulation in research is to strengthen research design, reduce the bias in data sources and increase the ability to interpret the results (Thurmond, 2001; Collis and Hussey, 2013). Triangulation can be classified into three types: data triangulation, investigator triangulation, and method triangulation (Collis and Hussey, 2009). Data triangulation refers to information collected at different times or from different sources. Investigator triangulation describes data collected from different researchers. Method triangulation is when more than one method is conducted in the research study to collect data.

Both data triangulation and method triangulation were used in the research. Data triangulation was accomplished by the use of two sample groups: a small group of individuals in the interview phase and a larger group in the survey phase. Method triangulation was achieved through the implementation of two different research methods: interviews of a qualitative nature and the survey within a quantitative research approach. Data from both methods was collected at different points in time. Research information collected in the initial interview phase helped to construct and refine the subsequent survey phase. Statistical data collected in the survey phase was used to examine data from the interview phase. Furthermore, semi-structured interviews are a

very valuable tool for performing triangulate quantitative data collection (Saunders, 2011), as will be explained below.

#### **4.5.3 Specific methods for data collection**

In stage one of the research study, semi-structured interviews were chosen as the specific means for data collection due to the two main reasons. First of all, this method is well-suited for the exploration of attitudes, perceptions and beliefs regarding complex issues (Barriball and While, 1994). This enables probing the multifaceted research topic from the respondent's perspective to preserve more information and to clarify the answers from the respondents (Richardson et al., 1965; Barriball and While, 1994). Secondly, this method excludes a standardised interview plan with uniform wording and specific question order. Although some researchers state that differences in responses occur due to the differences in questions (Gordon, 1975), some believe that not a word may imply a different meaning to different people (Treece and Treece, 1986). Given the heterogeneity of professionals who were interviewed, many with varying business experience, educational background and personal history, the researcher took advantage of the semi-structured interview technique. Thus, an interview framework with predetermined questions that were flexible enough to change the order and the wording were applied (Corbetta, 2003) to reword questions instinctively and develop a conversational setting that remained relevant to the topic (Patton, 2005). The semi-structured interviews were flexible with open-ended questions, opening up the chance to discover issues and new paths that arose unexpectedly and may not have been considered originally (Berg et al., 2004; Ryan et al., 2009). It also allowed the researcher to seek clarification on the answers based on the responses given, as well as collect similar answers from the interviewees that ensured a sense of order (David and Sutton, 2004; Bridges et al., 2008).

The researcher constructed the quantitative survey instrument based on the review of the previously related literature on mobile marketing and the comments from the semi-structured interviews in stage one. The insights gleaned from the interviews were used to revise and refine the survey instrument.

In stage two of the research study, a questionnaire-based web survey was used as a structured approach for quantitative data collection and corresponding statistical analysis for various reasons. First, web surveys have become a popular data collection method in business and management research (Llieva et al., 2001), commonly used in consumer

behavioural research for mobile payments for reasons of study design and construction (Dewan and Chen, 2005; Kim et al., 2010; Anthony and Mutalemwa, 2014). Couper et al. (2011) add that attractive reasons to distribute a questionnaire through an online survey includes quick responses, low costs, low interviewer bias, high degree of control and flexible format for formulating questions. Second, due to its quantitative character, it can be perfectly embedded in the positivist research approach using hypothetical-deductive procedures (Saunders, 2011; Bryman and Bell, 2015). Thus, this method helps testing the hypotheses and is replicable in another context; generalisation would also be possible with a larger sample (Creswell, 2013). Third, the web survey was implemented to achieve data triangulation, as explained in section 4.5.2. Fourth, the questionnaire-based web survey collects responses from a large sample (Couper et al., 2011), which is composed of the newsreaders of NZZ.ch in this research study. Fifth, the web-based questionnaire addressed the research aim by examining perceptions and attitudes of internet users. Thus, the web-based questionnaire collects data specifically from online users for the purpose of this study. Finally, the researcher had access to the resources to conduct a questionnaire-based web survey.

#### **4.5.4 Design and construction of data collection methods**

In order to collect qualitative information to seek new insights (Robson, 2002) and explore responses (Healey and Rawlinson, 1994) that contributed to the initial conceptual model visualised in Figure 3.1, a research instrument in the form of semi-structured interviews was required. An interview guide was carefully prepared for data collection in the pilot and main study, with a common basis used in both iterations.

The researcher pre-formulated relevant questions to the interview study, as recommended by Hutchinson and Wilson (1992). Important questions regarding perception factors, external variables, attitude and intention to use were included, while tangential questions were excluded from the interview guide. Furthermore, the questions were sequenced from general to specific to ensure an interview flow and initial icebreaker questions were applied to address the importance of the topic to the interviewee. Due to the novel nature of the research topic, open-ended questions were applied, exercising positive effects on the validity as more rich data for analysis was collected (Doody and Noonan, 2013). However, open-ended questions can encourage interviewees to talk at great length, so the number of questions was limited to 25 and the interview time to one hour. Valid data also depends on the willingness of participants to provide good and relevant information (Barriball and While, 1994). The researcher made sure that all interviewees answered the



questions; none of the respondents refused to be interviewed nor to not answer certain questions. Patton (1990) stated that the quality of data gathered from an interview depends on the investigator to a great extent. Although the researcher cannot fully control the interview situation within the research project, it was attempted to create a positive atmosphere to ensure the best data possible from the participants. Conducting interviews at the expert's convenience showed strong interest in the person's opinion and secured the validity of the data. Providing each respondent with detailed information about the study and intention of the research, answering questions about the data collection in a friendly manner and offering report about the findings also enhanced the rapport between the researcher and the interviewee, thus leading to an increase in the validity of findings. The interview framework (Appendix A) was designed to comply with the criteria of semi-structured interview competencies and was divided into three parts.

Part one of the interview guide was used as an introduction, describing the study and explaining the purpose of the interview. The first section was also used to allow the participant to feel comfortable before the interview took place. At the beginning, the researcher asked some background questions, such as the respondent's job title, working area and responsibilities, time at the organisation, etc. The researcher and the interviewee also discussed confidentiality issues, agreed on audio recording and signed the informed consent form for research participation (Appendix B).

Part two represented the heart of the interview instrument and included the topics of business models, micropayments and, in particular, perceived factors that might affect consumer use of micropayments. The researcher asked questions that allowed the participants to express their ideas and insights, also introducing each interviewee to the set of system and individual characteristics towards the attitude to use micro-transactions, which were derived from related research for the most reliable questionnaire possible. The intention was to get the experts' opinions on the significance of these factors and to potentially stimulate additional factors relevant to the research topic.

Part three was a debriefing session concluding the interview. The researcher asked the interviewee for country-specific factors on the research topic and additional items that may not have covered until that stage. At the end of the interview, the researcher thanked the interviewee for their voluntary participation.

Prior to conducting the first interview, the researcher provided an overview of the expected outcome from the interview questions in the framework with the purpose of

intended measures to be gained. During the interviews, probe questions were used to get more in-depth answers or follow up on interesting insights (Saunders, 2011). Typical examples of a probe question are “Could you please give me an example of that?” or “Why do you think this is the case?” or “What sort of impact do you think...?”. The interview structure was flexible to engage respondents with the issues they found most important. All interviews were audio recorded for transcription and data coding. Each expert participant was interviewed once with the allowance of two extra contacts for follow-up questions for clarification. The interviews, ranging from half an hour to an hour, were conducted in person or by Hangout depending on the participant’s preference or location.

English is sometimes referred to the fifth language of Switzerland (Watts and Murray, 2001), so it was used as the language of communication in the interviews. Language barriers in research studies have been widely discussed (e.g. Marshall and While, 1994; Squires, 2008). Some believe that use of the native language may be important in effective interviewing, such as in building a trustful interviewing atmosphere (Tsang, 1998). None of the interviewees were native English speakers, but all respondents were willing to participate in the study in English, possessing a high proficiency in and comfortability using the language. Furthermore, the researcher has demonstrated a proven track record of English language proficiency, including linguistic competency and engagement in literature written in English. This barrier-free communication is important to note in the context of this study related to the Swiss market, ensuring the sensitive use of words as well as valid and reliable data obtained from the interviewees. It also enabled the researcher to apply the terminology used in the thesis more accurately.

A questionnaire for the web survey was developed for data collection in the main study. The questionnaire (Appendix C) was designed to comply with the criteria of a web-based survey administered to the target population. As suggested by Couper et al. (2011) and by Saunders (2011), the questionnaire was designed with a short, easy-to-complete layout to ensure a high response rate.

The survey instrument was developed (1) by identifying appropriate measurements from reputable studies and (2) by implementing feedback from the expert interviews. Regarding the first part, the survey instrument was based on specific measurement scales to strengthen scientific quality of this thesis. These measurement scales relating to intention to use, attitude towards the use, perceived usefulness and perceived ease of use

were derived from numerous sources from related literature including IT, IS and e-commerce studies from Fishbein and Ajzen (1975), Davis (1989), Davis et al. (1989), Taylor and Todd (1995), Venkatesh and Davis (2000) as well as from Bhattacharjee (2001). The measurement scales relating to the external variables of system characteristics (mobility, compatibility, convenience) and of individual differences (innovativeness, knowledge) were sourced mainly from a variety of related literature about mobile payments and consumer behaviour on technology including Davis (1989), Goldsmith and Hofacker (1991), Karahanna et al. (1999), Mallat et al. (2006), Chen (2008), Kim et al. (2010), Schierz et al. (2010) and Gao et al. (2012). Table C.1 of Appendix C provides a list of all measurement scales derived from the literature review featured in the main study questionnaire with proof that they were used in previous research studies. Regarding the second part of the survey instrument, the measurement constructs and scale items for the newly-identified variables were developed from the qualitative interview stage of the main study, which is subject of a thorough data collection process as described in section 5.2.

The questionnaire was divided into 16 sections, with section A comprising four introductory questions relating to micropayment usage in online news. Section A acted as a gateway for the subsequent sections. Sections B and C contained three questions each for measuring the antecedent variables of perceived usefulness and perceived ease of use. Sections D and E contained seven questions about the attitude towards and intention to use of micropayments. Sections F to N represented the heart of the questionnaire, covering 28 questions overall which measure the significance of the dependent and independent variables that might affect consumers' adoption to use micropayments of online news. Sections F to N included survey items to identify the existing and newly developed external variables with each comprising of three to four questions to measure system characteristics (sections F to J) and individual differences (sections K to N). The newly-identified factors arising from the interview phase were included in the questionnaire after the analysis of the qualitative study. Section O collected demographic data on the respondents' age, gender and individual income level. Sections P and Q concluded the questionnaire, with entry into a raffle and thanking the respondents for their participation.

Respondents were asked to rate their level of agreement in the online questionnaire, as suggested by previous studies (Davis, 1989; Dahlberg et al., 2003; Pousttchi, 2008). The Likert rating scale was adapted from prior studies on consumer perceptions about mobile

payment systems (Dewan and Chen, 2005; Anthony and Mutalemwa, 2014) and willingness to pay for online news (Chyi, 2005; Chyi, 2012; Chyi and Lee, 2013; Himma-Kadakas and Kōuts, 2015). The Likert scale is also frequently used in quantitative research, especially in web surveys to investigate participant attitudes (Weng and Cheng, 2000; Subedi, 2016). Several researchers have discussed inconsistent findings on the optimal number of steps in literature (Matell and Jacoby, 1972; Garland, 1991; Cummins and Gullone, 2000). Matell and Jacoby (1972) concluded “*there is no a priori reason for favouring one scale over another if the criterion is proportion of scale used*” (Matell and Jacoby, 1972, p. 508). As suggested by Oliver (2014) and Saunders (2011), this study applied the most commonly used rating scale with an odd number of points in the relevant rating sections naming B to M, ranging from 1 = strongly disagree to 5 = strongly agree with the usage of a mid-point = 3. The middle point allowed respondents to tick the middle category when considering their response as “uncertain”, “neither...nor” or “doubtful” in the questionnaire instrument. Although respondents might be inclined to tick the neutral option, the mid-point was kept in due to the novelty of the research topic. The five-point Likert scale was also utilised in consistency with previous research on related literature on mobile payments (Wu and Wang, 2005; Koenig-Lewis et al., 2015).

The survey carried out among the consumers in Switzerland was initially written in English based on the literature review. It was then translated into and administrated in German, as NZZ is a German-language newspaper and so the online readers are German-speaking.

The web-based survey was subject to numerous revisions following feedback in an effort to clarify measures and reduce the length of the survey. The initial German version of the survey instrument was subsequently refined through a pre-test with two online newsreaders and eight marketing and customer relations experts from NZZ, with the latter group holding significant knowledge in the field of consumer behaviour. The individuals and experts were asked to comment on a list of items related to the survey construct: wording of the scale items, format and design of questionnaire, readability and understanding of questions and finally the length of the survey. These comments were incorporated in the final instrument. The several phases of the instrument development ensured a high degree of refinement and purposeful reorganisation, creating preliminary face validity and internal validity of the measures (Nunnally, 1978; Kim et al., 2010). The results of this pilot test showed satisfying validity and reliability measurements. The final survey consisted of 48 questions, 41 of which were about perception factors determining

the usage of micropayments for digital news. The survey was designed to take approximately five minutes to complete.

A copy of the questionnaire comprising both parts, the measurement scales from reputable studies as well as from the interview stage, can be found in Appendix C. Precisely, the email instrument accompanying the web questionnaire is stated in C.2 and the measurement scales of the questionnaire are explicitly documented in C.3 for the German version; the English version of the email instrument is stated in C.4 and the measurement scales of the questionnaire are evidenced in C.5 of Appendix C.

#### **4.6 Sample strategy and size**

As mentioned in the beginning of the thesis in sections 1.2 and 1.3, consumers of online news represent the focal subjects of this study. Different sampling techniques are described in the following section, before providing detailed information on the sample strategy and size used with these consumers within this thesis.

For the research questions in this thesis, it was impracticable to collect data from the entire population. Thus, there was a need to select a sample, which was equally important for both the semi-structured interviews and the web-based survey. Sampling techniques can be divided into two types: (1) probability or representative sampling and (2) non-probability or judgemental sampling (Saunders, 2011). Probability sampling is a sampling technique that utilises some form of random selection by establishing a procedure that ensures that the units in the population have equal probability of being chosen (Couper et al.; 2011; Bryman and Bell, 2015). Therefore, probability sampling is often combined with survey and experimental research strategies (Saunders, 2011). Probability techniques include simple random, systematic random, stratified random and cluster (Saunders, 2011). Contrary to probability sampling, non-probability sampling does not incorporate random selection. Thus, the probability of each unit being selected from the population is unknown. Consequently, non-probability samples neglect to answer research questions or to address research objectives that depend on statistical inferences about attributes of the total population (Saunders, 2011). However, generalisation for non-probability samples may still be feasible, although not on statistical grounds. Non-probability techniques include convenience, self-selection sampling, purposive sampling, snowball sampling and quota (Couper et al., 2011).

For the qualitative part of the study, the researcher used non-probability purposive sampling in the interview study to choose a fixed number of particular subjects for their

unique characteristics of experience (Kothari, 2004). Thus, the interview subjects were selected based on their expertise, each chosen by the researcher. Expertise was deemed as the combination of knowledge, years of experience and skills held by a person in their operating industry field (Germain and Ruiz, 2009; Nokes et al., 2010). A person holding the expertise relevant to this study was considered to be an expert.

The experts in the research study were selected based on their expertise in newspaper strategy, micropayment services and consumer behaviour in the news industry. All the experts were responsible for making decisions or involved in the strategy decision processes of their respective organisation. The researcher interviewed experts from three different groups to assure a variety of expertise on the panel:

1. Experts from newspaper companies
2. Experts from micropayment service providers
3. Experts from industry observing organisations

Each of these three expert groups represents a relevant characteristic of the study. Three participants for each expert group agreed on the interview, adding up to nine interviews in total, as listed in Table 4.2.

**Table 4.2: List of experts per expert group**

No.	Expert group	Position	Organisation
1.	Newspaper companies	Head of Direct Marketing, Paid Content, Readers Market	Tamedia AG
2.	Newspaper companies	Head of Marketing & Sales	Basler Zeitung Medien
3.	Newspaper companies	Chief Product Officer (CPO)	NZZ AG
4.	Micropayment service providers	Product Manager	TWINT / PostFinance AG
5.	Micropayment service providers	Country Manager BeNeLux	Blendle AG
6.	Micropayment service providers	Chief Executive Officer (CEO)	LaterPay AG
7.	Industry observer	Chief Customer Officer (CCO) and Managing Partner	Fehr Advice & Partners AG
8.	Industry observer	Director Advisory, Strategy and Digital Change Expert	Pricewaterhouse Coopers AG
9.	Industry observer	CMO	Abrantix AG

Most of the interviewees' contact information came from public records (phone number and email address), while a few interview partners came from private records (a business card) obtained by the researcher. The researcher initially contacted the experts either by phone or email firstly in April 2016, then once again closer to the study in June and September 2017 to take part in face-to-face interviews. The interviews were conducted throughout October and November 2017.

For the quantitative part of the study, the researcher established the focal point of the study, consumers of digital news in Switzerland. First, consumers of online news are a burgeoning segment within the Swiss newspaper population, in part due to the digital transformation of the news industry (PwC, 2017). Second, research suggests that the examination of the development of micropayments for online news lies in the hands of consumers (Szabo, 1999; Shirky, 2000, 2003; Herzberg, 2003; See-To et al., 2007; Mutter 2009; Sidnik and Graybeal, 2011; Graybeal and Hayes, 2011). Third, literature has clearly shown that micropayments have the potential to be the business model of choice for consumers (BCG, 2009; Time, 2009; Evangelista, 2010; Graybeal and Hayes, 2011; Sidnik and Graybeal, 2011; Geidner and D'Arcy, 2015). Fourth, little literature exists on micropayments for online news and consumer attitudes towards them — none of which pertain specifically to the Swiss market. Consumers of online news play a key role in influencing a newspaper's strategy and triggering innovative business models and were thus chosen to be the specific focus of this thesis. This study represents the first attempt to examine antecedents influencing the interest in micropayment use in the Swiss newspaper industry from a consumer perspective.

The precise definition of consumers of online news requires some consideration. According to Gonzalez-Feliu et al. (2010), a consumer can be defined as an individual who attempts to use his or her purchasing power. Consequently, a consumer of online news takes the usage of digital newspapers into account and is willing to purchase news content, which is the definition used for the purpose of this study. In this thesis, the researcher has extended this definition by excluding consumers actively paying for news regardless, because the study focuses on willingness to pay for small amounts in the future.

A sample survey was applied as a means of producing a quantitative description of the survey population, according to Schwarz et al. (1999). The Customer Relationship Management (CRM) team at NZZ AG provided the sample frame from their database,

which was created in September 2011 and currently contains up-to-date information about their customers. Access to the customer database for the purpose of this study was granted to the researcher by NZZ in April 2016 (Appendix D).

Various researchers previously made clear that it is very important to select an accurate sample (Bradley, 1999; Biffignandi and Toninelli, 2005; Malhorta et al., 2008). The specific probability sampling method of simple random selection was applied using a computer-generated selection to extract the sample from the entire population of 840,618. The initial sample frame consisted of 8,000 randomly selected consumers. It was calculated that the required sample size at 90% confidence level and a 5% margin of error for this sample frame was a sample of 264 contacts (Wallace and Pfab, 2012). Based on this, the sampling process was undertaken precisely to ensure a greater sampling process (Saunders, 2011). Owing to a restrictive marketing policy at NZZ, some members of the sample frame could be extracted, whereas other could not be chosen. Duplicate and invalid contact information was removed from the sample frame in the selection process to ensure that each member was contacted only once and that the bounce rate was minimised. This resulted in an updated final sample frame of 7,302 email contacts. The final sample in this study was 262 and is described in section 5.3.1.

The particular sample of consumers in this study included consumers reading online news on NZZ's websites. There were five qualifying criteria for the selection list. First, the existence of an NZZ user account was mandatory, allowing them to read more articles behind the registration wall and subscribe to a wide range of newsletters. Second, users with an active (paid) NZZ subscription were excluded from the selection. It was assumed that online readers with user accounts, but without active subscriptions had a certain reservation from paying a full price subscription and, as such, are potential users of micropayments. For example, a full price subscription for NZZ Digital costs CHF 220 including 8% VAT for one year (NZZ, 2018). Third, a minimum of one visit on NZZ's news websites within the past six months prior to the delivery of the survey was mandatory to the selection, targeting users who actively read digital news — including NZZ.ch, NZZaS.NZZ.ch (the online portal of the Sunday paper NZZ am Sonntag) or Bellevue.NZZ.ch (NZZ's lifestyle portal). Fourth, the sample excluded readers who read magazines (NZZ Folio, NZZ Geschichte, TV Star), as magazines differ from newspapers in a variety of characteristics — mainly in the sense that they focus on niche content, such as history (NZZ Geschichte) and as such are not relevant to this study in the news context. Fifth, the sample excluded readers who use the NZZ News App, which can be



downloaded via Apple’s iTunes Store or Google’s PlayStore. Selecting these users is somewhat limited due to the restricted availability of data from Apple and Google. The combination of these five qualifying criteria resulted in a group of users who read digital news behind the registration wall, but who are not willing to pay for a subscription. These online readers were assumed to hold the highest potential to accept and use micropayments for digital news. A summary of the sample consumers of this study included and excluded in the selection list can be found in Table 4.3.

**Table 4.3: Selection list: qualifying criteria**

Qualifying portal	Anonymous readers (no account, no subscription)	Registered readers (account, no subscription)		Subscribers (account, paid subscription)
		Minimum of one visit within six months		
		yes	no	
NZZ.ch	Excluded	Included	Excluded	Excluded
NZZaS.NZZ.ch	Excluded	Included	Excluded	Excluded
Bellevue.NZZ.ch	Excluded	Included	Excluded	Excluded
NZZ Folio	Excluded	Excluded	Excluded	Excluded
NZZ Geschichte	Excluded	Excluded	Excluded	Excluded
TV Star	Excluded	Excluded	Excluded	Excluded
NZZ News App	Excluded	Excluded	Excluded	Excluded

This group was chosen because they are of great importance to potential micropayment usage and for the research study. No demographic data was available for the sampling frame in the database, so no detailed breakdown of any demographic information of the sample distribution could be provided. To overcome this issue, the researcher selected gender, age and monthly income in the survey. Since all users of the database had to register their email address with NZZ via an online platform, the members of the sample frame were considered a viable selection for participation in web survey.

As recommended by Adams et al. (2007), Dillmann (2007) and Sauermann and Roach (2013), several initiatives were included to ensure high response rates: participants who submitted a valid questionnaire were entered into a draw to receive one out of three CHF 30 vouchers from the merchandising store NZZ Shop; a short summary of the purpose of the study was indicated at the top of the web survey; the survey instrument was simple and clear; questions used flawless grammar and were free from semantic errors; the email and the web survey used an appealing design and layout; and the survey was sent in the

name of the sponsor with Neue Zürcher Zeitung as the sender's name. Furthermore, the survey featured several prompts to ensure the participants completed each question in order to decrease the number of void responses. According to the email marketing expert at NZZ, the average response rates to email surveys among customers of NZZ Digital is expected to range between 8% and 10%, bringing the anticipated number of sample responses to between 640 and 800. The sample data was used to test the hypotheses as stated in Chapter Three.

#### **4.7 Validity, reliability and transferability**

The terms of validity in semi-structured interviews, also referred to as objectivity (Davis, 1980) or credibility (Lincoln and Guba, 1985), describes the degree to which the interview technique measures what the investigator attempted to study (Hutchinson and Wilson, 1992). Valid interview data were achieved by considering various techniques, described as follows.

In qualitative research practice, applying the concept of reliability is a challenge, especially when addressing the notion of rigour in semi-structured interviews. Curry et al. (2009) suggest rigour is strongly related to reliability in qualitative research literature and associated with "*systematic collection, organisation, and interpretation of data in accordance with rigorous and widely accepted techniques for research strategy, sampling, data collection and analysis*" (p. 1444). Semi-structured interviews allow the interviewer to obtain reliable data by using probes (Hutchinson and Wilson, 1994). One vital element to interviews is that they allow for clarification of both relevant issues brought up by the interviewees and inconsistencies in the respondents' answers (Hutchinson and Wilson, 1992). The researcher had to establish a sense of rapport to generate complete information to ensure reliable data (Gordon, 1975).

Various methods exist for enhancing the integrity and reliability of the data in semi-structured interviews. First, the researcher has a critical role when gathering information from the experts' interviews (Curry et al., 2009). She thus had to become familiar with the data collection process, such as actively listening to the talk and responding to interesting issues raised by the interviewee that may have been relevant to the research and enriched the data. Second, the researcher used audiotapes to ensure accuracy of the interview content which facilitated analysis (Barriball and While, 1994; Curry et al., 2009). Audiotaping is a commonly utilised aid in semi-structured interview methods, as it gives insights into the performance of the interviewer and the respondents (Barriball

and While, 1994). It also reduces errors occurring from handwritten notes of interview summaries.

In quantitative research practice, reliability is related to the correctness and consistency of measurement. Validity, on the other hand, is the degree to which the measurement captures reality (Cooper and Schindler, 2011). A high degree of both reliability and validity are required in this scientific study project. Reliability was accomplished by a) developing a structured research instrument comprising of the web-based questionnaire with specific questions and piloting it and b) the high Cronbach Alpha score indicated scale reliability. Validity was achieved by providing the survey instrument to selected academic and industry experts prior to conduction. Transferability is grounded on the point that the results from the main study of the DBA thesis are claimed to be representative of the geographic scope of the study. In this research, whilst the sample consisted of only 262 usable respondents, the sample could be considered statistically 'large' and representative and transferability to like contexts could be done with caution.

#### **4.8 Data analysis**

This section discusses the various forms of data analysis applied in the path of the research. In the first section, the researcher introduces the constant comparative method for analysing the semi-structured interviews in the first stage of the main study. The second stage of the main study acts as the core element of the empirical component of this DBA thesis. It takes the form of the cross-sectional web-based questionnaire to NZZ.ch consumers to examine usage intentions of micropayments in a Swiss context. Data collection is a most important scientific approach to research methodology, especially with regard to the advanced statistical methods applied to analyse the collected information. Thus, Structural Equation Modelling (SEM) used for the quantitative data analysis of this research is explained in the second section.

##### **4.8.1 Constant comparative method**

The constant comparative method was applied as a frequently used and analytical approach for the stage 1, semi-structured interviews (Glaser and Strauss, 2009). In this method, the transcribed interview data was reviewed line by line and relevant words, phrases or sections were labelled. In qualitative research literature, this labelling is sometimes referred to as coding. Codes or labels are tags that are used for allocating units of meaning to the descriptive information compiled through the study (Basil, 2003). The researcher highlighted similarities and differences in the text segments and coded

phenomena that she considered to be important or relevant to the study. Using the constant comparative method, the researcher refined existing codes, identified new codes in a back-and-forward process and then created categories on the most relevant codes. In another step, the researcher labelled the categories and connected them to each other, forming the output of the data analysis.

#### **4.8.2 Structural Equation Modelling**

Structural Equation Modelling (SEM), sometimes called path analysis, is a multivariate data analysis method that allows the researcher to simultaneously analyse functionalities between dependent and independent variables quite easily. SEM was applied with the purpose of testing the set of relationships hypothesised in the Alpha model of this thesis. The SEM technique has achieved growing attention due to several reasons. First, researchers need to become aware of multiple variables to better understand complex social phenomena. Second, SEM incorporates greater recognition to the degree of validity and reliability of the survey instrument. Third, the development of Structural Equation Modelling has progressed over the past 30 years so that multifaceted phenomena, including interaction effects, can be tested (Reinartz et al., 2009; Hair et al., 2011). Fourth, SEM software allows for the modelling of direct, mediating and moderating effects and has developed to an acceptable level of user-friendliness (Schumacker and Lomax, 2004).

Many researchers carry out covariance-based SEM (CB-SEM) analyses using software such as AMOS, EQS, LISREL and others. CB-SEM is used when various preconditions exist. Firstly, if the research objective is to test a theory or confirmatory in nature (as opposed to exploratory), then the suitable approach is CB-SEM. Secondly, CM-SEM is the appropriate method if the research is using a construct that contains fewer items (one or two). Thirdly, CB-SEM requires data distributional assumptions (Hair et al., 2011).

SEM offers another useful approach — Partial Least Squares SEM (PLS-SEM) — which is different to CB-SEM. Some researchers rate CB-SEM and PLS-SEM as complementary rather than contrary methods (Jöreskog, 1982). The SEM approach used for the quantitative main study was the PLS-SEM analysis, which has experienced increased attention as leading multivariate analysis technique in strategic marketing research (Hulland, 1999). According to Anderson and Swaminathan (2011), PLS-SEM is beneficial for studies in e-commerce research, such as digital news for micropayments,

mainly because of its methodological benefits that allow researchers a thorough flexibility in modelling relationships (Vinzi et al., 2010; Hair et al., 2013).

Furthermore, PLS was applied by Teo et al. (2015) and Andreev et al. (2012) to test causal relationships in consumer adoption factors for mobile payments. Given the new topic of micropayments and drawing on parallel views of mobile payments, this thesis aimed to apply the variance-based SEM, with regards to causal relationships for micropayments in Switzerland. Moreover, Hair et al., (2014) recommend using PLS-SEM to apply to an exploratory research or an extension of an existing theory. PLS-SEM also allows researchers to explore new relationships that are predictive in nature, referring to identifying the key factor constructs (Hair et al., 2011). Since this research was exploratory in nature and used an extended approach to the existing TAM model, this study used PLS-SEM over CB-SEM. The researcher used SmartPLS software to the model due to its advances of its easy and intuitive user interface (SmartPLS, 2017).

#### **4.9 Methodology process**

Several sequential stages were involved in the research process. At the beginning of the research project, the research questions, aim and objectives were established. Upon completion, a review of the literature began. The literature review positioned this study within the academic literature and scholarly theories of the research topic. Given the new topic of micropayments, the literature review was drawn on parallel views of mobile payments. The literature synthesis drew conclusions from the literature review and ensured that the relevant set of influencing factors was considered in the conceptual model.

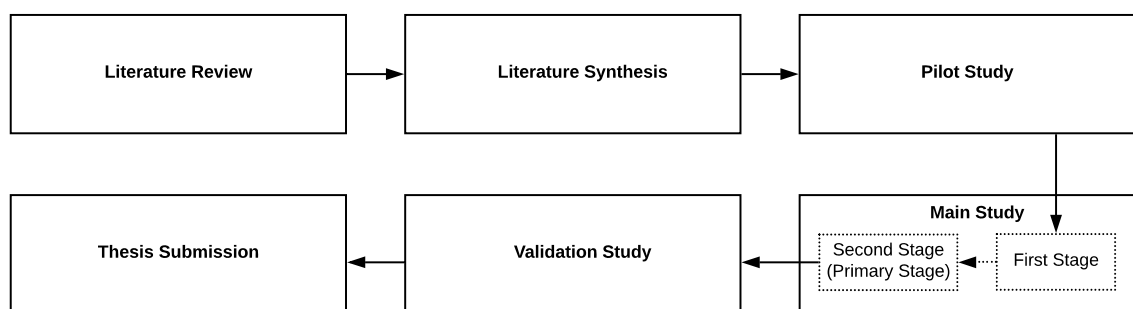
After the establishment of the research hypotheses, the study was conducted in two stages. The first stage used semi-structured interviews with a purposive sample of industry experts, while the second stage — the primary stage — collected data in a nationwide web survey of NZZ.ch readers. The first stage was conducted to contribute to the initial conceptual model by additional features provided by industry experts, specifically commissioned to the micropayments' topic in the newspaper industry within a Swiss context. A pilot study validated the chosen research method for the first phase. The findings from the first stage were incorporated into the initial conceptual model which enabled the researcher to generate the comprehensive Alpha model as a basis for the main study in the subsequent stage. The main study was executed to test the Alpha model and measure the research propositions. Following the analysis of the results from the main

study, the researcher discussed the outcomes, drew conclusions and provided recommendations to academics and industry leaders.

A validation study was conducted with the aim of validating the research results from the pilot study and main study of the research process. The research outcomes from the main study results from the second stage were examined by a group of eight industry specialists and academic professionals in the fields of micropayments, consumer behaviour and digital marketing. The panel was purposively selected grounded on their professional background and experience to ensure they could make a high-quality contribution to the validation study. This allowed for a comprehensive assessment of the main study results and a substantial extension of the pilot study, confirming research model development and model testing as well as the presentation of the outcomes to the panel experts. The responses from the validation study can be found in Table 6.3., showing that the panel deliberated and probed the results and hence, the validation study validated the empirical research results of this DBA thesis.

Each stage of this research study was incorporated in a holistic research process, visualised in Figure 4.1. The pilot study is discussed thereafter.

**Figure 4.1: Stages in the research process**



#### 4.10 Pilot study

A pilot study was performed prior to the full-scale interview study with a focus on assessing the feasibility of the initial study design. A pilot study is defined as a trial run conducted in preparation of the main study with the purpose of specifically pre-testing the research instrument (Van Teijlingen and Hundley, 2001; Watson et al., 2007). Pilot studies have been well established as a useful instrument in both qualitative and quantitative research (Tashakkori and Teddlie, 2010). In this research study, a pilot study was conducted primarily to pre-test the interview template and content validity, as well as to identify possible obstacles that could occur.

The methodology of the pilot study was strongly grounded in the description of the main study, as explained in section 4.5.4. In terms of the sample size of pilot studies, little guidance exists in literature (Hertzog, 2008). Unlike probability studies, no rules exist in the size of samples for non-probability studies (Saunders, 2011). Based on the recommendations of Patton (2002) and Paterson and Canam (2001), the researcher decided on a sample size that was useful, complied with the intent of the pilot study and could be done within the available resources. Cychota and Harrison (2006) suggest including a small pilot group in survey studies and according to Creswell (2013), qualitative research studies exist that include one or two individuals. Thus, the pilot test of this thesis was carried out on a small number of two pilot participants. The researcher conducted two sufficient pilot interviews due to various reasons: First of all, the first pilot interview achieved sufficient results in terms of content towards the factor identification. Second, both pilot interviews were suitable in terms of the construct, in terms of time and specifically clarity and character of questions. Third, the pilot study attained appropriate results regarding the interview process and transcription procedure. Fourth, both the data collection method and data analysis technique were tested successfully. Fifth, data saturation was reached after the accomplishment of the two pilot studies and no new data collected would have brought new insights. Sixth, a limited number of industry experts existed with profound knowledge in micropayments and digital news in Switzerland. The researcher did not have access to a larger sample of experts to be included in the pilot study (unless samples from the main study were included in the pilot study; see next paragraph), so the sample size of two subjects accomplished the purpose of the pilot study. In other words, the sample size was suitable for what was needed. Finally, the two pilot interviews were carried out within the available resources.

In business research, it is often not recommended to include pilot participants in the main study, as contamination may arise (Van Teijlingen and Hundley, 2001) from either of two sources: first, when data from the pilot study is included in the main results, and second, where pilot participants are included in the main study, but new data is collected from the same individuals. For these reasons, the interviewees from the pilot study were not included in the main study.

As outlined in section 4.6, the sample was selected with the non-probability method of a purposive sample that belongs to one of the three expert groups. The two pilot participants, deliberately selected by the researcher, were both part of the first category of experts dealing with newspaper strategy. This sample choice for the pilot study was

grounded on the assumption that this expert group was most experienced among all three expert categories in business models for digital news, and as such, extremely suitable for testing the interview framework.

As highlighted in section 4.5.4, semi-structured interviews were applied to collect data for the main study. The research design from the pilot study was applied to the main study due to the advantages of gaining deep information from participants and clarifying meanings while also understanding the phenomenon of micropayment use from the individual's perspective (Bryman and Bell, 2015).

The initial interview framework was tested on the pilot subjects. The feedback from the pilot subjects was carefully reflected upon in order to ensure that errors or inconsistencies with the interview framework were acknowledged and eliminated before the main study started.

At the beginning of the pilot interview, participants were introduced to the research study and made aware of the informed consent form (Appendix B). The researcher answered questions from the pilot subjects before both parties signed the informed consent form. The participants were also made aware that the interview would be audio recorded. The researcher also explained that participation is voluntary and that the participant could discontinue the interview process without giving a reason.

The relatively small sample size allowed quick and efficient data collection by the researcher. An assistant student was hired for the purpose of the transcription process and thus was involved in the data collection process. Prior to the transcription process, the researcher prepared a Microsoft Word template to fill in the interview data including questions (Q), answers (A) and comments (C). This template was shown to the assistant student and the researcher trained the student on the transcription process before the transcription of the first interview took place. For each pilot interview, the process for data collection was then undertaken as follows. First, straight after the interview the digital interview audio recording was transferred to the researcher's computer. Second, the researcher opened the audio recording in a media player to allow testing the file. Third, the researcher sent the audio taped interview, including the prepared transcription template, to the student. Fourth, the student listened to the person, who was interviewed by the researcher. Fifth, the student captured the interview information manually by listening to the audiotape following word-by-word. Sixth, the student then manually transcribed the audio taped interview in the Microsoft Word template. Seventh, the



student double-checked the transcribed interviews for any omissions. Eighth, the student sent the textual data of the interview back to the researcher. Ninth, the researcher double-checked the transcribed interviews for errors and inconsistencies by reading the textual data and listening to the audiotape. Tenth, since no omissions occurred, the researcher approved the transcription to the student.

The insights and findings from the pilot group were used to revise the interview guide of the main study and to refine the initial research framework, which is presented at the beginning of the following Chapter Five.

The success criteria of the pilot study were based on the four feasibility objectives. These determined whether it was feasible to continue with the main study a) with a modified framework; b) the same framework with close monitoring; c) no change; or d) not continue the main study as it is not feasible (Thabane et al., 2010). The objectives for the pilot interview, template and content validity were defined based on the recommendations by Lancaster et al. (2004) and the researcher defined them as following: (1) test the time limit of the interview; (2) test the clarity of all questions; (3) test whether respondents refuse to answer any questions; (4) test for omissions; (5) ask participants for input and recommendations; (6) test whether perceived factors relating to micropayment use can be identified and valuable conclusions can be drawn; (7) test interviewer skills for data collection and analysis; (8) test the transcription process; (9) test whether the amount of transcribed interview data can be handled by the researcher; (10) test data analysis method; (11) write a pilot study report and synthesise findings. If all of the above objectives in the pilot study were successfully achieved, the main study can be feasibly continued. The outcomes of the success criteria for the pilot study and the interview template are stated at the start of the next Chapter Five.

#### **4.11 Accessibility**

NZZ AG, based in Zurich, Switzerland, agreed to sponsor the study and provided access to data required for the purpose of this study. The collaboration between NZZ and the researcher was carefully discussed prior to the research project. The researcher is familiar with NZZ as she is directly employed by the company. The researcher has written a contract about access to data needed for conducting the study and addressing confidentiality and anonymity issues. The final and signed version of the access and confidentiality agreement is presented in Appendix D. The agreement contains four sections: (1) purpose of the study, (2) required data, (3) data provided by NZZ and (4) the

agreement on confidentiality. Section one informs the reader that NZZ data is required to investigate potential factors that determine consumer use towards micropayments for online news. Section two provides information on three different categories involved in the data collection process: (a) expert interviews; (b) a web-based survey among NZZ.ch users distributed through email; (c) access to relevant data sources, e.g. newspaper circulations. Section three outlines how NZZ assures accessibility to all of the three data access categories required by the researcher. Section four outlines that information will be treated with confidentiality, results will ensure anonymity and the permission of the NZZ management must be obtained before publishing.

The agreement guaranteed the researcher access to one industry expert taking part in the first stage of the study and access to the database of NZZ costumers by distributing a web-based questionnaire to NZZ.ch consumers in the second stage of the study.

#### **4.12 Research ethics**

The research was the author's own work. In designing the research, the author followed Heriot-Watt University's research ethics policy. NZZ's commitment to contributing to this research was obtained prior to this study. The access and confidentiality agreement between the researcher and NZZ AG is stated in Appendix D. During the qualitative part of the research, the researcher conducted semi-structured interviews, recorded the responses and processed the results without the help of assistants. A student transcribed the audio-recorded semi-structured interviews, hired for this purpose. The author acted professionally to inform participants of the purpose of the study and to protect the rights of these participants by providing an informed consent form (Appendix B). All participants signed the informed consent form. The participants were informed that they had the right to refuse questions or discontinue in participating the interview without providing any reason. The interviewees were also informed that their participation did not result in any benefit. Participation in the interviews was completely voluntary. During the quantitative part of the research, the researcher administered a web-based questionnaire and processed the results without support. The author maintained anonymity of respondents. There was no subject identifier in the data collection and data analysis, ensuring that results could not be traced to a specific survey question. Respondents only needed to fill out a questionnaire and so taking part in the research posed no risk. Participation in the questionnaire was voluntary. After the research, the researcher processed only data that had been received in a valid manner. The author maintained impartiality. The researcher demonstrated triangulation as much as possible.

#### **4.13 Conclusion**

This chapter described the various aspects of the research design and methodology. The philosophical framework used in this research is the positivist paradigm, mainly because the study aimed at identifying factors towards the use of online micropayments for newspapers based on a conceptual model including a predictive set of assumptions. The inductive and deductive research approaches were discussed and the researcher justified the use of a combined approach. The qualitative data collection method with semi-structured interviews was justified and the quantitative data collection technique with a web survey was thoroughly described. The sample group for the interview was industry experts, while the sample group for the web survey was consumers of online news. The design of the interview framework and the survey were influenced by literature. Data and method triangulation was achieved through the combination of different samples and distinctive data collection procedures. Research ethics involved before, during and after conduction of the research were considered for the data collection and analysis process.

Chapter Five will present the results from the first two stages of the research project: the pilot study and the main study. The initial research concept is tested in the pilot study stage of the research, which functions as a basis for the main study stage of this research project.

## **CHAPTER 5: RESULTS**

This chapter comprises the discussion of the outcomes of the pilot study, and how these findings have informed the main study. The outcomes of the main study are then addressed, followed by the presentation of the validation study in Chapter Six. Following the cumulative research, conclusions and recommendations are drawn along with a set of future research opportunities, as outlined in Chapter Seven.

### **5.1 Pilot study**

#### **5.1.1 Introduction**

The aim of the pilot study was to test the suitability of the data collection method, interview questions and analysis and to simulate the main study. Moreover, as this was an exploratory study, the researcher was able to test the appropriateness of the data collection process in a sample, examine if additional perception factors influencing the use of micropayments in the news industry could be detected and add to the initial conceptual model derived from the literature review. The pilot study used the same questionnaire interview framework designed for the main study, as described in section 4.5.4.

#### **5.1.2 Subject details**

As detailed in 4.10, two industry experts were purposefully selected to take part in the pilot interviews. One interview was held on 20<sup>th</sup> June and one was held on 23<sup>rd</sup> June 2017. In the following discussion, pilot participant 1 is denoted by PP1 and pilot participant 2 by PP2.

Regarding the demographics, only the gender criteria of the subjects was used; one subject was female, one was male. The sample therefore did not reflect the gender distribution of the main study (see section 5.2.2). No other demographical information was recorded, as this was not relevant to the pilot study. Both participants were fully employed at NZZ AG. Both worked in the newspaper's strategy planning process; as such, both participants anticipate users' behaviours and needs in which digital news consumption is a core part. While one participant worked in the online marketing department being responsible for the paywall business model of NZZ.ch, the other participant was responsible for the overall strategy of developing products. One of the subjects had worked full-time at a newspaper's micropayment service provider in Germany before working at NZZ. Both subjects held several years of experience in newspaper business model strategies, with one interviewee having six years of

experience, the other one more than 10 years. Given the information above, both interview subjects — stated in Table 5.1 — were highly regarded as industry experts within the industry field of newspapers.

**Table 5.1: Pilot study subjects**

Participant	Expert group	Position	Organisation
PP1	Newspaper companies	Digital Product Manager	NZZ AG
PP2	Newspaper companies	Senior Online Marketing Manager	NZZ AG

### 5.1.3 Data collection process

All interviews were conducted in English. Both pilot candidates were highly proficient in English, enabling the researcher to use topic terminology in the thesis and to ensure valid and reliable data. The researcher began the interview process by explaining the purpose and anticipated time limit, as well as getting permission to audio-tape the answers and transcribe the responses. After clarifying these administrative topics, the effective interview question session began. During the interview, the researcher made a few notes regarding potential optimisation of the interview structure, mainly relating to the questions — for example, how to improve the transition between one question and a subsequent question. The researcher, however, relied on the recording for data capturing and thus concentrated on the participants’ answers. After the interview had ended, the researcher thanked the pilot subjects for their participation and stopped the audiotaping.

In general, all questions were clearly and understood by the pilot participants. However, two omissions were detected where questions could be optimised. First, two interconnected questions used pontificated language and were too long. This was indicated by the fact that PP1 asked the researcher to repeat these questions:

*Question 1: “From your point of view, what do you think are the encouraging factors that consumers of online news may facilitate or accelerate to use micropayments?”*

*Question 2: “From your point of view, what do you think are the discouraging factors that consumers of online news may facilitate or accelerate to use micropayments?”*

The researcher refined these questions in the second interview by using easier language and shortening the length. No omission occurred in the second interview regarding these questions.

*Question 1: “From your point of view, what **factors** have positive effects on consumers’ use of micropayments?”*

*Question 2: “From your point of view, what **factors** have negative effects on consumers’ use of micropayments?”*

Second, PP2 asked to clarify the definition of the factors that have been identified in academic literature as they were provided in one question by the interviewer:

*Question: “**Academic literature** argues that the following **factors** influence consumer acceptance of micropayments: mobility, compatibility, convenience, innovativeness, knowledge. Why is one more important than the others?”*

The interviewer was able to describe the factor definitions in own words; however, was not prepared to clarify questions on the details of the external variables as they were assumed to be self-explanatory. Instead, the interviewer gave an explanation of each of the five characteristics for the main study for consistency in her answers. Otherwise, the interviewing skills from the researcher were thought to be adequate enough in the pilot study to draw the data required.

None of the pilot interviewees refused to answer any questions and both participants had an answer to every question. The flow of the answers was smooth, with a few transitional questions between the different sections that were refined and the interview framework slightly adjusted. No input or recommendations were suggested. No omissions occurred during both pilot interviews, aside from the two mentioned above.

Both interviews were well within the anticipated range of the one hour limit, with the first interview lasting for 33.12 minutes and the second interview lasting for 29.54 minutes. The transcription process included the audio recording of all pilot interviews for transcription and data analysis purposes. The researcher provided a structured template for the textual data from the interviews to be transcribed to the assistant student, who undertook the transcription process manually. This template was appropriate for each question and answer to be filled in and left room for the researcher’s comments. The transcribed pilot interviews can be found in Table E.1 and Table E.2 of Appendix E. In total, 15 pages of content were generated during the pilot study. Given the amount of data produced, the sample size of two subjects was found to be appropriate for the purpose of this pilot study. In summary, semi-structured interviews were thought to be a suitable data collection method for collecting expert ideas on perceived factors on consumer use.

#### **5.1.4 Data analysis method**

A brief data analysis — accomplished manually — was executed to confirm the research analysis method and procedure. The actual data analysis procedure started at the beginning of the interview by asking follow-up questions when needed. The interviews were then transcribed into textual data using the Microsoft Word template, resulting in a detailed document comprising all collected qualitative data for each interview. The document had various sections according to the interview framework with the questions and answers inserted in each relevant section. The brief analysis has confirmed coding, an appropriate method for data collection, which was done in Word by highlighting text using different colours (Table E.1 and Table E.2 of Appendix E).

In both interviews, perceived factors were detected that could potentially contribute to the initial conceptual model. During the interview with PP1, the interviewee provided four additional external variables: three system characteristics and one individual feature. PP1 also highlighted the importance of the existing antecedent of ease of use towards micropayment solutions. During the interview with PP2, the interviewee stated two new factors: one system characteristic and one personal characteristic. PP2 also emphasised the importance of ease of use and its relative usability. The factors identified from the two interviews did not overlap. In total, six factors could be identified from the two pilot studies: four system characteristics and two individual characteristics. The data analysis in the pilot study has been thought a suitable technique and in the main study, it was applied for all interviews in the same way.

#### **5.1.5 Results: factor detection**

Based on the pilot interview with one subject (PP1), the results were compiled from the collected qualitative data and presented in this section. Since one pilot study sample is provided in this section, no comparison with other pilot candidates has been drawn. In the main study, however, similarities, differences, patterns and trends among all interview participants were drawn.

Several factors could be identified having an encouraging effect on consumers' use to micropayment services in the Swiss newspaper industry from the pilot interview with PP1. Their responses suggested the following perception inputs: (1) ease of use; (2) universal payment platform; (3) fair communication; (4) unique value. A brief analysis on each of these provided inputs and whether the factors qualify as additional variables to be integrated in the conceptual model.

First, the respondent perceived *ease of use* to be a positive factor towards the use of micropayments by highlighting it three times during the interview:

*PP1: "The ease of use of such solutions right there, let's say NZZ offers micropayment solutions. The ease of use of this option is really important."*

*PP1: "I think the ease of use is extremely, extremely important."*

*PP1: "Because micropayments have to be so easy, they can't be built just for one media company or one media website."*

Drawing from the literature, from a consumer perspective a technology will be perceived as more useful when it is easier to use (Davis et al., 1989; Venkatesh and Davis, 1996; Wang and Li, 2012). With regard to the study topic, perceived ease of use describes consumer belief in the ease of use of micropayments, with which micropayments help them to access digital news information, download articles from publishers and access website content about current and former news topics (Bruner and Kumar, 2003). Thus, ease of use was integrated into the conceptual model as antecedent variable toward the attitude to use by the researcher prior to the pilot interviews. This factor was indeed confirmed by the interviewee, but did not represent a new variable and hence, did not qualify to be added to the initial conceptual model.

Second, a universal payment platform was provided as perceived factor that would increase consumer use of micropayment services. The researcher summarised the interviewee's long circumscriptions provided in his answer as factor universal payment platform:

*PP1: "Let's say I am a Thurgauer Zeitung subscriber or a Süddeutsche subscriber and I bump into this great story that happens to be on NZZ. If I can pay with my Thurgauer Zeitung account I think I would pay quickly, if I could pay with my NZZ account I think that would make me think three or four times, if I could pay with a platform account that would be great. If I could pay with an account at Sourcepoint or Blendle or LaterPay, which is really easy to use, that, from my point of view, would be the easiest way to commit user to actually pay for stuff."*

In other words, the participant suggested a payment solution that is detached from one single newspaper's website and can be used by consumers universally for paying for digital content from various newspapers. The participant further mentioned the platform issue when the researcher asked what other topics about micropayments have not been covered in the previous questions:



*PP1: "I know I have mentioned it before, but I think it will happen on a platform."*

The universal payment platform has not yet been identified by previous researchers in related studies or in the context of micropayments. Therefore, it qualifies as newly-identified variable to be added into the initial conceptual model. Research has shown that system characteristics are characterised as a category of external variables that have the capability to influence consumer intention to use a new IS (Davis, 1993; Venkatesh, 2000). The participant makes clear that users could pay by micropayment services given the universal payment platform. Thus, this factor can certainly be interpreted as a system characteristic. It is also obvious that platform refers to a technology or system, not to an individually perceived feature. Venkatesh (2000) and Davis (1993) proposed system characteristics have a direct effect on perceived usefulness and also on the perceived ease of use. The interviewee linked the universal payment platform factor to both antecedents perceived ease of use (*"really easy to use that"* and *"would be the easiest way"*) and perceived usefulness (*"I would pay quickly"* and *"user would actually commit to paying"*). Therefore, the following further operational hypotheses were proposed:

#### **Hypothesis 12**

**H<sub>0</sub>:** Universal payment platform will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Universal payment platform will have a positive effect on the perceived ease of use of micropayments.

#### **Hypothesis 13**

**H<sub>0</sub>:** Universal payment platform will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Universal payment platform will have a positive effect on the perceived usefulness of micropayments.

Third, fair communication was suggested as an additional factor of intention to use micropayments of digital news in the pilot study. The pilot candidate mentioned:

*PP1: "I also think the fairness of communication is really important."*

This factor refers to active and transparent information offered by the newspaper company regarding the price associated with an item of digital content. The pilot participant explains the encouraging factor by stating more details:

*PP1: "There's a lot of trickery happening right now, like LaterPay says, 'Oh you don't have to pay', until you bump into this artificial barrier of €5.00, I think, and others say that you don't have to pay but you have to provide your email. There's a lot of trickery — just tell me your price, tell me how to pay for it in easy way and I think a lot of people would take advantage of that."*

This factor should certainly be added into the initial conceptual model as a new variable. It is a first-hand element, uncovered from a newspaper expert, that refers to the perceived ease of use (“*easy way*”) and the perceived usefulness (“*people would take advantage of that*”). It was not immediately clear which category this factor belonged to; fair communication fits into the category of system and individual characteristic. However, since individual characteristics are defined as principles as to how and why individuals adopt new technologies (Agarwal and Prasad, 1999; Sun and Zhang, 2006; Bagozzi, 2007), and a fair explanation of what to expect when approaching the use of micropayments, the researcher classified this factor as an individual characteristic. Thus, the following further operational hypotheses were derived:

#### **Hypothesis 14**

**H<sub>0</sub>:** Fair communication will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Fair communication will have a positive effect on the perceived ease of use of micropayments.

#### **Hypothesis 15**

**H<sub>0</sub>:** Fair communication will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Fair communication will have a positive effect on the perceived usefulness of micropayments.

Fourth, the interviewee presented unique value as a factor regarding attitude towards micropayment use during the pilot study interview. The statement of PP1 is listed below:

*PP1: “I think it’s discouraging when the content is not good enough, not necessarily when it’s bad content, but it’s not unique enough that I am willing to pay for it. [...] You make really unique content.”*

The interviewee described one way for newspapers to create unique value to their readers: unique content. This refers to a way in which the user could find the depth and perspective of what to read in their newspaper of choice. Previously, there was no way to access and consume this type of content outside of reading it in the printed version of a newspaper or in the mobile version of the digital newspaper. The pilot interviewee adds a comment by saying:

*PP1: “If you look at what users today have to go through in order to read a story, it’s sometimes outrageous, because newspaper websites are sometimes so comically bad. They put in pop ups, insane ads, they load slowly, which is not that good and people still do it. That just tells you how valuable content is to them.”*

In this statement, the interviewee suggested another way for newspapers to offer unique value to their users, by providing valuable content. This relates to the unique ‘packaging’ of the content. The newspaper used to be assembled in an attractive way, making reading the content appealing. Since both attributes refer uniqueness and as such, are interlinked, the researcher has combined them into the term unique value. Sandvand (2010) states that uniqueness attributes influence user intention to pay for newspapers in a downward trend. Similarly to fair communication, and based on the definition of how and why to use a new technology (Agarwal and Prasad, 1999; Sun and Zhang, 2006; Bagozzi, 2007), unique value is classified as an individual characteristic for the purpose of this study. The interviewee hinted at the relation to perceived usefulness (“*how valuable content is to them*” and “*when it’s bad content... I am willing to pay*”). Therefore, the following hypothesis is formulated:

#### **Hypothesis 16**

**H<sub>0</sub>:** Unique Value will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Unique Value will have a positive effect on the perceived usefulness of micropayments.

#### **5.1.6 Pilot study synthesis**

It can be synthesised that out of potentially four newly identified perception factors towards the attitude and intention to use micropayments, three factors have qualified as new variables and one factor was found to be an existing variable. Among the three new variables, there is one system characteristic, universal payment platform, and two individual differences, fair communication and unique value. Universal payment platform and fair communication refer to both perception factors, ease of use and usefulness, while unique value relates only to usefulness. Therefore, the following new hypotheses are proposed in the pilot study:

#### **Hypothesis 12**

**H<sub>0</sub>:** Universal payment platform will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Universal payment platform will have a positive effect on the perceived ease of use of micropayments.

#### **Hypothesis 13**

**H<sub>0</sub>:** Universal payment platform will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Universal payment platform will have a positive effect on the perceived usefulness of micropayments.

### Hypothesis 14

**H<sub>0</sub>:** Fair communication will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Fair communication will have a positive effect on the perceived ease of use of micropayments.

### Hypothesis 15

**H<sub>0</sub>:** Fair communication will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Fair communication will have a positive effect on the perceived usefulness of micropayments.

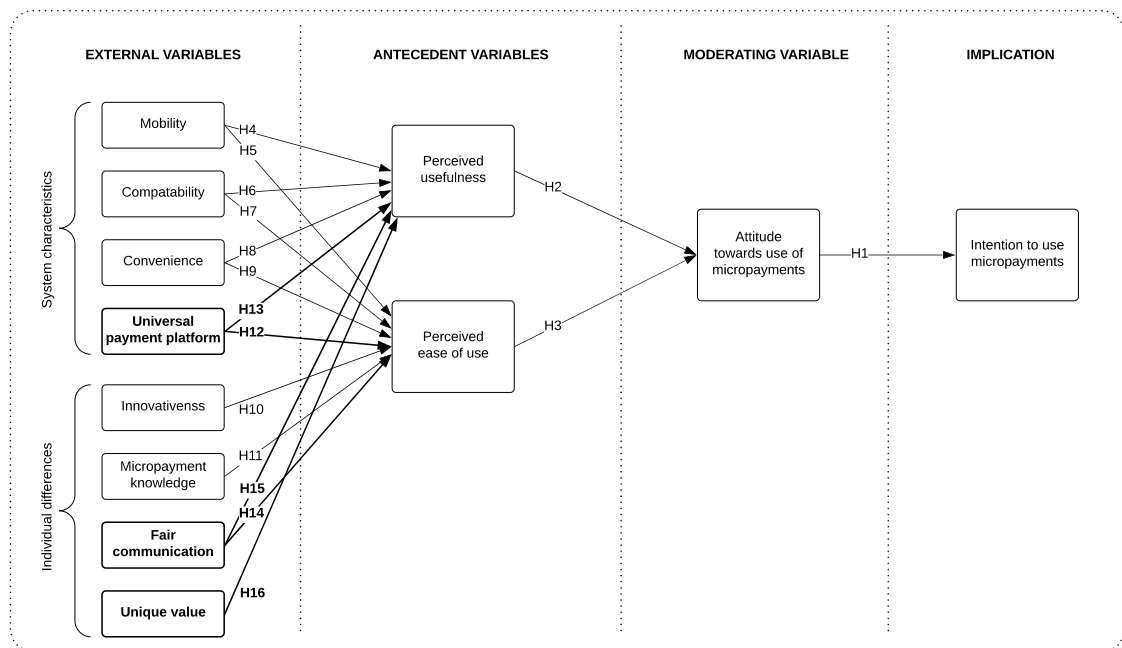
### Hypothesis 16

**H<sub>0</sub>:** Unique Value will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Unique Value will have a positive effect on the perceived usefulness of micropayments.

These operational hypotheses, therefore, have been incorporated into the initial conceptual model and visualised as Alpha model in Figure 5.1.

**Figure 5.1: Alpha model**



Source: Figure by author, adapted from Davis (1985), Venkatesh and Davis (2000), Venkatesh et al. (2003) and Kim et al. (2009).

As a result of the pilot, the researcher had added these new variables to the conceptual model. However, it must be stressed that these additional hypotheses were added only as a result of the PP1 respondent's comments in the pilot study. These suggested hypotheses

were examined further in stage one of the main study. If they were verified by the respondents, they would then be subject to test in the second stage of the main study.

During the course of the study, the Alpha model was subject to various iterations. Factors detected from the main study interviews (stage one) were incorporated into the research model, arriving at the Alpha 1 model. The hypothesised relationships were then tested utilising the larger, main sample (stage two), creating the Alpha 2 model. Further into the statistical research process, the structural research model was named Beta 1 presenting t-values; the final research model showing path coefficients was named Beta 2 model. The final research model — Beta 2 — is depicted in Figure 5.10 on page 147.

### **5.1.7 Conclusion**

The research methodology of the semi-structured interviews proved to be appropriate for the purpose of this research. No concerns hindering the main research study were detected. According to 4.10, the success criterion of a pilot study was whether it is reasonable to proceed with the main study a) with a modified framework; b) the same framework with close monitoring; c) no change; or not continuing the main study as it is not feasible (Thabane et al., 2010). Drawing on the summary and conclusions above, the main study will continue with a marginally modified interview framework and additional hypotheses. Moreover, the intended data analysis methodology was found suitable for achieving the research objectives.

## **5.2 Main study: interview stage one**

### **5.2.1 Introduction**

The results of the semi-structured pilot interviews were documented in the previous section. The pilot study helped to create the Alpha model and to assess the suitability of the interview guide. In this section, the findings from the main study will be discussed, including an examination of the research model and a review of the hypotheses that were derived from the literature review.

The main study aimed at identifying factors of the attitude towards and intention to use micropayments for online news in a Swiss context. This was conducted with a dual approach: the consideration of perception factors from a practitioner perspective in this specific business context, then the validation of these factors among digital readers. The reasoning behind the two-step process was to find a comprehensive list of attributes and factors that forms a sound basis for the examination of the relational model. Thus, the

effect from both stages — the practitioners’ perspectives and the consumer views on the actual usage of micropayments in the Swiss context — could be established.

The holistic research model includes the external variables divided up into system characteristics and individual differences, as well as their relations to the antecedents of perceived usefulness and perceived ease of use, the moderating component attitude and their influence towards the usage of micropayments. The aim of the core model was to understand the influencing factors that shape consumer usage behaviour of digital news. The research aim and subsequent research objectives were stated in section 3.3.

### **5.2.2 Subject details**

As justified in section 4.6, nine participating experts (P1, P2, P3, ... P9) from three different industry sectors took part in the semi-structured interviews in the main study. The list of experts was stated in Table 4.2 in Chapter Four. All experts were excluded from the pilot study, as suggested by Lancaster et al. (2004). The interviews took place between 16<sup>th</sup> October and 7<sup>th</sup> November 2017 at their respective workspaces in Basel, Bern and Zurich in Switzerland, with the exception of one remote interview via Hangout as the expert was based in Utrecht in the Netherlands (P5). The demographics of the participating experts were six men (67%) and three women (33%). The female participants constituted the newspaper group, while the male participants constituted the micropayments service providers and industry observing companies. No further demographic information was gathered from the participants subsequent to the pilot study, as this was not relevant to this stage of the main study. All experts were employed in long-term management positions, playing a role in strategic management decisions and with a track record of expertise in their specific role with a newspaper, micropayments or industry observing company. Moreover, three experts (P3, P5, P6) worked directly and two experts (P7, P8) indirectly with specific online micropayments business models in a newspaper context in Switzerland. P1 and P2 had a profound background in paid content strategies for newspaper publishers in general. Furthermore, P4 held a proven track of mini transactions’ knowledge in the Swiss e-commerce sector among various industry sectors. Moreover, with more than 20 years’ experience in the electronic payments industry in Switzerland and Europe, P9 could be considered a payment pioneer. As a result, all nine experts were highly qualified to make a profound contribution to the main study.

### **5.2.3 Interview process**

As previously stated in section 4.5.3, stage one in the main study used a semi-structured interview template as data collection method. The same questionnaire interview guide as for the pilot study (Appendix A) was applied. The qualitative data analysis was a lengthy and complex process. This included listening to nine interview tapes with durations between 25:34 and 49:02 minutes several times — thus transcribing a total of 5:48:42 hours of spoken information, reading the transcripts numerous times, linking themes, composing codes, choosing categories, selecting citations and finally recording the codes in a comprehensive fashion in a summary sheet (Appendix F).

The interviews yielded a significant amount of information. A total of 86 A4 pages of transcribed spoken interview material were produced with an average of 9.56 A4 pages per interviewee. This vast amount of text had to be coded ahead of the analysis to ensure an organisation of the collected data and to make sense of the textual information (Basit, 2003).

### **5.2.4 Quantifying the interview material**

In advance to the qualitative analysis of the interviews, the compilation of quantifying the interview results of coding are described in this section. This indicates frequencies of individual and group data and entails a clear presentation of the results in tables. Hence, the indications of frequency provide a preliminary impression of distributions within the data material and contribute to the transparency and verifiability of the qualitative interview study (Flick et al., 2004).

A total of eight factors were identified from the nine interviews produced. With regards to the initial conceptual model depicted in Figure 3.1 in section 3.3, four factors were elicited that already existed in the initial conceptual model and four new determinants were identified. Each set comprised two system characteristics and two individual differences; the categorisation of each factor into either category is explained in the following sections 5.2.6 and 5.2.7. Four out of five factors from the initial conceptual model were confirmed in the main interview study; only one factor was not. Furthermore, all three factors identified in the pilot interview study were verified in the main interview study, thus strengthening the Alpha model in Figure 5.1 in section 5.1.6. An overview of the indicated frequency and the visualisation of the balanced factor distribution can be found in Table 5.2.

**Table 5.2: Overview of factor identification in interviews**

Category of external variables	Existing factor	New factor	Factor not identified
System characteristics	2	2	1
Individual differences	2	2	0
Sum	4	4	1

*Note.* Existing factors refer to factors identified in related literature review; new factors relate to factors newly-identified from the expert interviews.

Source: Main study data.

The minimum number of determinants found in the interviews was three and the maximum six. On average, each interview produced 4.33 factors per interviewee. This can be seen in Table 5.3, with value 0 standing for ‘no identification’ and value 1 for ‘successful identification’ in the respective interview.

**Table 5.3: Number of factors identified per interview**

Factor	Interview No.										Sum
	1	2	3	4	5	6	7	8	9		
1 Mobility (MOB)	1	1	1	0	0	1	0	0	1	5	
2 Compatibility (COM)	0	0	0	0	0	0	0	0	0	0	
3 Convenience (CON)	0	1	1	1	0	1	1	1	0	6	
4 Later payment (LPM)	0	0	0	0	1	1	1	0	1	4	
5 Single payment platform (SPP)	0	1	1	1	0	1	0	0	1	5	
6 Innovativeness (INN)	1	0	0	0	0	0	0	0	0	1	
7 Micropayment knowledge (KNO)	1	1	0	0	1	0	1	0	0	4	
8 Perceived trust (PTR)	1	0	1	1	0	1	1	1	1	7	
9 Perceived content relevance (PCR)	1	0	1	1	1	1	1	1	0	7	
Sum	5	4	5	4	3	6	5	3	4		
Average											4.33

Source: Main study data.

The frequency of factor identification varied from interview to interview: the highest identification frequency of seven was achieved for perceived trust (PTR) and perceived content relevance (PCR), while the lowest indication was innovativeness (INN) — with the exception of compatibility (COM), which was the only component not identified in any of the interview comments.



These results differed from the 190 relevant mentions within the nine interviews, with an average of 21.11 factor mentions per interviewee. The minimum number of mentions from the interviews was one and the maximum was 45. With the exception of PCR, there are parallels to be observed in the top three identified factors. The number of their mentions can be seen for PTR, CON and SPP through their indicated rank in the following Table 5.4.

**Table 5.4: Comparison of factors identified and factor mentions per interview**

Factor	Frequency of factor identification in all interviews	Rank	Factor mentions per interview	Rank
1 Mobility (MOB)	5	3	19	5
2 Compatibility (COM)	0	-	0	9
3 Convenience (CON)	6	2	41	2
4 Later payment (LPM)	4	4	16	6
5 Single payment platform (SPP)	5	3	32	3
6 Innovativeness (INN)	1	5	1	8
7 Micropayment knowledge (KNO)	4	4	5	7
8 Perceived trust (PTR)	7	1	45	1
9 Perceived content relevance (PCR)	7	1	31	4
Total	39		190	

Source: Main study data.

An average of 13 factors was detected in each expert group, with a maximum of 14 found in group 1 (newspaper companies) and a minimum of 12 with group 3 (industry observers). Each elicited factor was found once, twice or three times per expert cluster, with the exception of factor six (INN), which was only found once within group 1. The factor frequencies in each expert group can be seen in Table 5.5.

**Table 5.5: Factors identified per expert group**

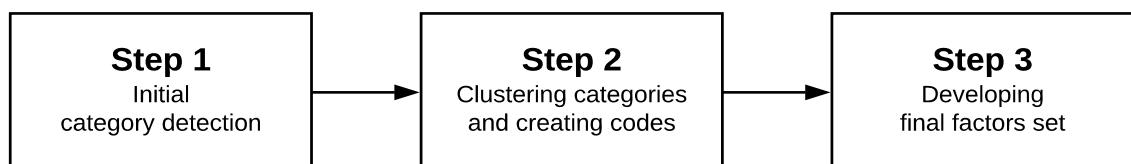
	Factor	Group 1	Group 2	Group 3
1	Mobility (MOB)	3	1	1
2	Compatibility (COM)	0	0	0
3	Convenience (CON)	2	2	2
4	Later payment (LPM)	0	2	2
5	Single payment platform (SPP)	2	2	1
6	Innovativeness (INN)	1	0	0
7	Micropayment knowledge (KNO)	2	1	1
8	Perceived trust (PTR)	2	2	3
9	Perceived Content Relevance (PCR)	2	3	2
	Sum	14	13	12
	Rank	1	2	3

*Note.* Group 1 = newspapers; Group 2 = micropayment service providers; Group 3 = industry observers.

Source: Main study data.

### 5.2.5 Analysis process

The primary objective of the textual analysis was to identify codes and categories, which were perceived to play an influential role in consumer use of micropayments. Until results had been presented, the constant comparative method was applied several times for the analytical approach. This involved the review of the scripted interview data line by line, the identification of patterns and themes and then the labelling of relevant pieces of words, phrases or sections as codes for each interview. The several stages of code development that were carried out in a manual process to achieve a coherent set of codes from the qualitative interviews are reported and documented below. The three-step process is displayed in Figure 5.2, followed by an explanation of the various stages.

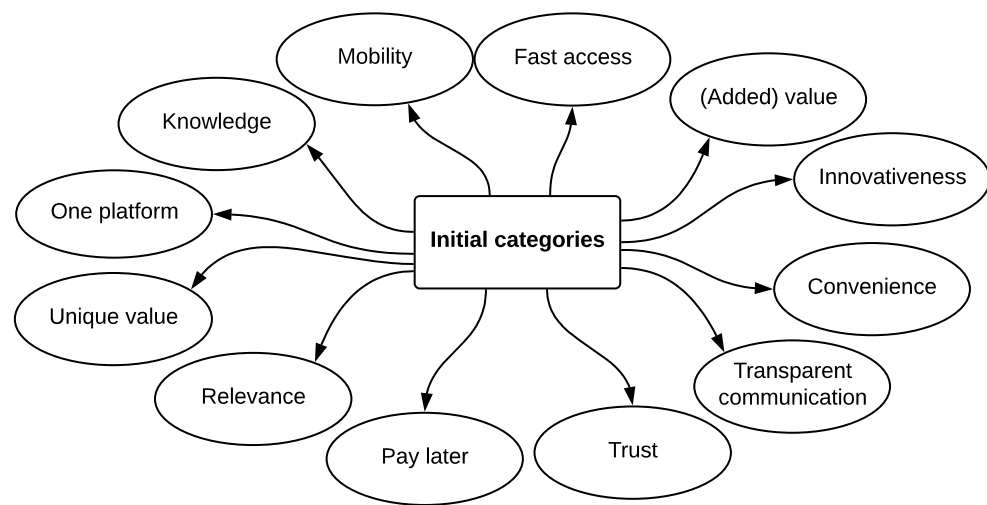
**Figure 5.2: Coding analysis process**

Source: Author.

### Step 1: Initial category detection

First of all, the researcher highlighted similarities and differences in the textual data of each distinct interview, then made decisions on which relevant information belonged to a common theme. At this stage, the researcher scribbled names of summarised themes in the codes section on the right-hand side of the transcribed interview sheet. In a successive back-and-forth reading process of all interviews, similar or equivalent themes were merged to a category family. This way, new themes were discovered and previously identified categories were refined. In a concluding step, the categories detected were depicted in a simple schematic map as drawn in Figure 5.3.

**Figure 5.3: Initial category detection**



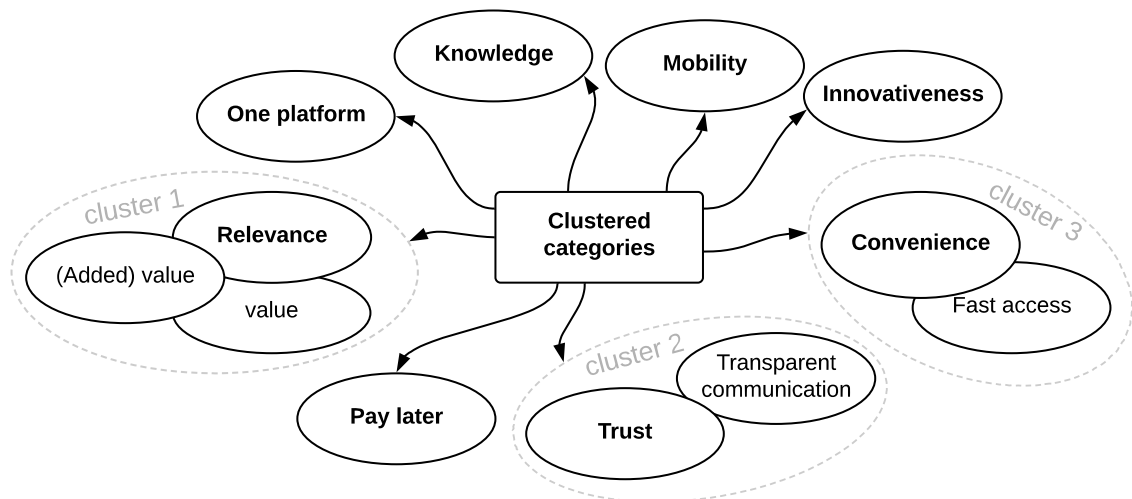
Source: Author.

### Step 2: Clustering categories and creating codes

In a refinement process, the researcher analysed the formerly created initial categories by finding characteristics of what constitutes each unit. The researcher then assigned clusters by categorising units of the same meaning or combined phrases that are attached to each other as demonstrated in Figure 5.4. Three clusters were identified including straightforward and more complex codes. For example, cluster three was straightforward since fast access to micropayments is a preliminary to convenience and, as such, is directly related to a convenient customer experience in the study context. Hence, the researcher decided to combine both categories and named the code after its primary driver, i.e. convenience. On the other hand, a more complex example is cluster one combining the following categories: relevance, value, added value and unique value. Despite relevance and the various forms of value having distinct descriptions, the researcher identified a coherent sense by reviewing the textual data several times. The

experts commented that relevance of unique news content leads to a value, added value or unique value to each consumer. Hence, the main theme is content relevance, as perceived by the individual reader, which in turn results in the motivation to achieve a specific value. All clustered categories that are considered codes at this stage in the analysis process with the primary code depicted in bold are stated in Figure 5.4.

**Figure 5.4: Clustering categories and creating codes**

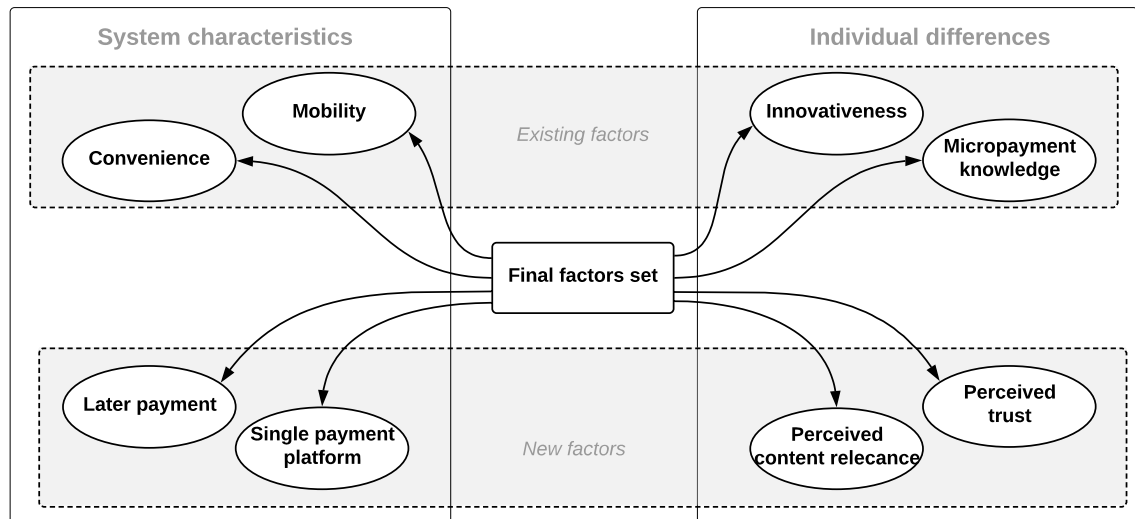


Source: Author.

### Step 3: Developing final factors set

In the final step, a precise name of each code, including a common name of the clusters, was created to arrive at a concrete expression. For example, cluster 2 was precisely named as perceived content relevance (PCR) due to the fact that relevant news content is perceived subjectively. Furthermore, the codes were classified into categories, either system characteristics or individual differences. The final set of codes constitutes the set of factors identified from the interviews in stage one of the main study. An overview of the factors set with their distinct category can be seen in Figure 5.5.

**Figure 5.5: Final factors set from interviews**



Source: Author.

### 5.2.6 Descriptions of system characteristics

From the main study interviews with nine experts, four system characteristics could be detected supposing a positive effect on consumer use of micropayment services in the Swiss news market. The role of each of the four variables, namely mobility (MOB), convenience (CON), later payment (LPM) and single payment platform (SPP) is introduced below. The following sections discuss the project specific variables and their relationships to the antecedent variables of perceived usefulness and perceived ease of use are accentuated.

#### 5.2.6.1 Mobility

First, mobility was provided as a perceived factor for contributing to consumer use of micropayment services. The responses from the experts interviewed indicated that various unique attributes influence mobility in the context of the Swiss news industry. The first and most significant attribute mentioned lies in the inherent mobile technology providing users with the ubiquitous freedom to access digital news anytime and anywhere. The respondents reflected upon this attribute using expressions such as:

P2: *“[The usage of mobile services for digital news] absolutely depends on the time of the day. In the morning, on the way to work, one may more likely read on their tablet, while during dinner time, they may more likely read news on their smartphone or on desktop.”*

P3: *“The inhibition to buy something in the evening with our smartphones on the couch is just much smaller... we know that purchases are being made in the evening, that they are being made on mobile.”*

P6: *“[As a merchant] you sell a benefit to the user [...] anytime, from anywhere.”*

The experts’ statements on the ubiquitous character of mobile technology in relation to micropayments are reminiscent of previous research findings in related studies on mobile payments (Kleinrock, 1996; Pousttchi and Wiedemann, 2007) as stated in section 2.8.5.1. Contrary to the value of both time and location independence, the statements imply a core problem: consumers do not want to worry about which device they consume journalistic content on and where. This problem touches on the concept of ‘fragmentation of mobile technology services’ and the role of mobile devices for news consumption in the mobile era (Wolf & Schnauber, 2015). The responses indicate that publishers with digital news content are not only of importance to mobile internet consumers, but also that their news content dominates mobile information.

Another attribute that one participant considered relevant to the context of micropayments is the implication of low-cost offers for digital mobile services. The expert claimed that an increase in using mobile devices is related to these offers:

P1: *“[In the last years there was a] strong increase of mobiles, so mobile digital offers [...] focus on low-price offers. Customers learn through Netflix and other low monthly prices.”*

This attribute linked to mobility had previously not been found in literature and has yet to be examined in the empirical part of the main study. However, two respondents followed up on this aspect and enhanced customer acceptance of micropayments using mobile devices by explicitly accentuating the dimension of technological infrastructure. They pointed out that a mobile payment process is expected not to just mirror the desktop checkout, but to meet mobile communication standards to reduce the burden on the consumer of supporting micropayments. One expert supported this attribute by making a clear statement:

P3: *“I think the huge part of micropayments has been made on mobiles and I think that’s going to increase. I think your products have to be very focussed on mobile and your payment process has to be more focused on mobile. [...] I think that’s a huge factor.”*

In summary, the semi-structured interviews conducted showed that mobility is a crucial aspect towards micropayments usage that is influenced by three attributes: ubiquity, the appeal of low-costs offers, and technological infrastructure. Mobility was integrated into the initial research model as an external variable in the category of system characteristics

influencing the attitude to use, prior to the pilot and main interviews. Hence, the evidence from the main study confirmed mobility as key factor and its relationships with perceived ease of use and perceived usefulness. Therefore, the following hypotheses as proposed in the initial research model were restated:

**H<sub>0</sub>:** Mobility will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Mobility will have a positive effect on the perceived usefulness of micropayments.

**H<sub>0</sub>:** Mobility will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Mobility will have a positive effect on the perceived ease of use of micropayments.

### **5.2.6.2 Convenience**

Six out of nine experts considered convenience to be a crucial aspect for micropayments' usage. Aligned with related literature (Obe and Balogu, 2007), all respondents described convenience as a premise for digital news with the purpose to make consumer web experience easier in terms of micropayments. Hence, the existence of the convenience aspect was viewed as beneficial to a positive customer experience that supports the acceptance of micro-transactions.

The first dimension suggested by most experts was simplicity, which was viewed as the absence or lack of complexity in the micropayments process. On the internet, users are able to obtain what they came for and hence, are goal-oriented (Nielsen and Levy, 1994). That means that online news consumers disregard any obstacle stopping them from reaching their goal of using micropayments services. The experts highlighted this aspect as following:

*P2: "It must be so simple that we can't be fed with such long and complicated processes of registration, verification and payment."*

*P3: "The biggest inhibitor to micropayment is if it's complicated, because then the whole ease of use and speed factor goes away."*

The two quotes "*long ... processes of ... payment*" and "*speed factor*" in the above quotes are connected to the second dimension of micropayment services: fast access. The experts explained that users expect a frictionless payment process when approaching news usage. Although they did not specify the phenomena of fast access in detail, it can be interpreted as instant access otherwise it becomes worthless. A slow web service reduces immediacy of micropayments services online and increases consumer frustration, as affirmed by one expert:

P3: *“I think for micropayments it would mean the sharpness of the transaction, the speed of the transaction and the immediacy of the transaction would also be a factor.”*

Moreover, one participant accentuated the connection of these two interrelated dimensions as part of the convenience factor towards the ease of use:

P4: *“Why should I pay for the content? Micropayment relates to a convenience factor. It has to be easy, accessible, simple and fast.”*

The third dimension identified from the interviewees is that of one-click, which allows consumers to make online purchases with a single click with the payment details required to proceed the micro-transaction having entered previously. The respondents referred this attribute to predefined consumers information such as address or credit card details to pay for digital news. In the context of micropayments, the experts concluded:

P2: *“We may purchase things with one-click”*

P3: *“I think one-click pay is so successful, because it’s really one-click”.*

Although the findings from the experts’ responses and related literature about mobile payments share the same general definition of convenience, none of the three dimensions detected from the semi-structured interviews were found in the literature review and vice versa (see section 2.8.5.3). Thus, convenience is considered a multi-dimensional construct with various characteristics. In summary, the interview findings above suggest that convenience is the sum of simplicity, fast access and one-click payment procedures, which are clearly believed to be characteristics of micropayments. Like mobility, the variable of convenience was included in the initial research model as system characteristics relating to perceived ease of use, perceived usefulness, attitude and the intention to use micropayments.

Therefore, the main study interviews affirm convenience as a fundamental factor in the research model and the following operational hypotheses are restated:

**H<sub>0</sub>:** Convenience will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Convenience will have a positive effect on the perceived ease of use of micropayments.

**H<sub>0</sub>:** Convenience will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Convenience will have a positive effect on the perceived ease of use of micropayments.



### 5.2.6.3 Later payment

Nearly half of those surveyed recommended later payment as a major driver for using micropayments in the context of Swiss news. Unlike typical up-front offers, respondents suggested that consumers first experience the product and then proceed to pay. The following statements highlight this aspect:

P5: *“[...] where users just need to top up [money] before they could do anything. That doesn't work at all.”*

P6: *“If you click on the homepage of Spiegel Plus, then it mentions you a no-upfront registration payment. You are not here to enter a long-term commitment. Pay only once you have reached five Euros.”*

The experts urged that pricing is conducted after the reading experience is known. This way, the consumer can try, test or review the news product before accepting the price. Two respondents provided the rationale behind the post-pricing process: publishers must remove consumer risk or rejection on a digital news product upfront and signal supplier's value and trust. The objective is to provide customer-first relationships and therefore motivate readers to value the price.

In the analysis process, the researcher saw a critical issue with the responses about post-pricing, which is due to the interviewees' assumption that consumers have the choice of making a payment after reading, and so this generosity may not be monetised. A solution to this core problem could be that the consumer sets a price that they are willing to pay themselves, which is called 'personalised prices' in managerial business literature (Reisman, 2017). However, the challenges of this open question that publishers face are not addressed in this research project, as they are not the focus of the study. Two other interviewees made a clear statement about the billing issue by proposing that readers are billed at the end of the reading session:

P7: *“A company should trust the consumer and offer 'You can continue reading, read what you want.' Afterwards we'll send you the bill. The pain and the interruption of the [reading] flow for the user should be minimised.”*

P9: *“Customers don't like to pay upfront for news so transactions are billed at the end of a month or day. Micropayments must be a service where you pay after you have used the information and you are happy with it.”*

To conclude, all the respondents agreed on post-pricing. However, one interview group (P5, P6) did not provide a solution for the payments process while the other group (P7, P8) was clear on the billing option for a specific time period. Later payment has not yet

been identified by previous researchers, neither in related studies nor in the context of micropayments. Thus, this factor uncovered by the interview experts qualifies to be added to the initial research model as a new variable. Unlike mobility and convenience, no specific attributes or dimensions were detected for later payment from the semi-structured interviews. The respondents provided no indications specifically relating to either ease of use or usefulness, so the researcher linked later payment to both perception factors and test their relationship towards attitude and intention to use micropayments. Since later payment refers to a technology or service, rather than an individually perceived feature, it truly qualifies as a system feature. Therefore, the following new relationships are proposed for the exploratory part in the main study:

- H<sub>0</sub>:** Later payment will not have a positive effect on the perceived usefulness of micropayments.  
**H<sub>1</sub>:** Later payment will have a positive effect on the perceived usefulness of micropayments.

- H<sub>0</sub>:** Later payment will not have a positive effect on the perceived ease of use of micropayments.  
**H<sub>1</sub>:** Later payment will have a positive effect on the perceived ease of use of micropayments.

#### **5.2.6.4 Single payment platform**

The third factor identified by over half of the respondents in the main study interviews to contribute to users' use of micropayments services is single payment platform. One interviewee provided the explanation of this variable after the researcher asked what they believed was needed for micropayments to take off in Switzerland:

*P2: "[...] the perfect scenario would be an alliance between publishers so that they would offer a common platform where there would be one pot with content and interested customers would search for what they want and pay for what they want, regardless of the publisher and particular title."*

In other words, the participant suggested a platform for consumers to access and pay for digital news in a universal way that is detached from single newspapers' websites or apps. Moreover, the participant suggested an alliance between various publishers to group their content and present it in a bundled way to digital readers. The description of P2 also includes access to common content and a common payment solution incorporating this in a single platform. The bi-dimensional construct becomes even more obvious with the statement of another participant:

P4: *“If the reader has one single login or one single payment solution for everything, that’s rather great.”*

The respondents affirmed the consumer benefit of having a single login and a single registration, which would in turn enhance the acceptance and usage of micropayments for online news, accentuated by the following statement:

P4: *“[...] to establish one single portal for all European needs [...] every single operator offers all ways of payment. [The customer] doesn’t have to open up a new account to have access to [news] data so I guess they’d be willing to pay. Why not create one platform where all media players are in? With one single site... where users can consume content from all media.”*

The same respondent pointed out that the consumer would never need to interact with the payment process again after the one-off registration, having entered their payment methods to pay for the digital news content:

P4: *“User confirms their registration and then you never ask to interact with the payment again”.*

This reflects the hurdles of consumers having to register with every website that they may be interested in. If the reader already likes the media product, they might have a login to that specific news portal, but if the same consumer wants to subscribe to another news portal, they may be less willing to go through the registration process again.

In terms of terminology, various phrases with a common meaning were used by the interviewees during the interviews: *“uniform payment system”*, *“one registration”*, *“one platform”*, *“one news platform”*, *“one solution”*, *“one single site”*, a *“destination site”*, *“common platform”*. Since most comments related to a common payment solution, the researcher decided on the single payment platform. An omission in the experts’ answers is the fact that they did not specify the term platform whether this is referred to a website, app or other software solution.

The feature was previously detected in the pilot study in section 5.1.5, hence strengthening its role in the research model. Single payment platform was unquestionably classified as system characteristics, as these clearly refer to a technology or IS system (Davis, 1993; Venkatesh, 2000) that propose the usage of micropayments, as stated by the experts. Previous researchers on mobile payments studies or micropayments literature had not yet identified single payment platforms as external variable towards the acceptance or usage of micropayments. Hence, they qualify as newly-identified variable

for the research model, linked to the antecedent factor perceived ease of use as suggested by two participants:

P3: “...if there is one solution that becomes an industry standard, then it really becomes easy [for the reader].”

P9: “It must go easier for different kinds of news and platforms.”

Other respondents indicated a relationship of single payment platform towards the usefulness (“it is the usefulness”) so the researcher linked the factor to the antecedent factor perceived usefulness. Therefore, the following additional operational hypotheses were proposed:

**H<sub>0</sub>:** Single payment platform will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Single payment platform will have a positive effect on the perceived usefulness of micropayments.

**H<sub>0</sub>:** Single payment platform will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Single payment platform will have a positive effect on the perceived ease of use of micropayments.

In summary, four system characteristics as external variables were identified in the main study interviews with two variables that confirmed the findings from the literature review (mobility, convenience) and two newly-discovered variables (later payment, single payment platform) that were added to the initial research model. The following section outlines the variables within the category of individual differences that were revealed from the interviews.

### **5.2.7 Descriptions of individual differences**

Besides the identification of system characteristics, experts have discussed a multitude of individual differences with four factors relating to consumer’s use of micropayment services including innovativeness (INN), micropayment knowledge (KNO), perceived trust (PTR) and perceived content relevance (PCR). These features and their linkages to the antecedents — perceived ease of use, perceived usefulness — are discussed in the following sections.

#### **5.2.7.1 Innovativeness**

One out of nine experts regarded innovativeness as relevant to user acceptance of micropayments, which was already considered a significant variable in previous online purchasing studies (Yi et al., 2006). In the expert interview, innovativeness was explained

as the affinity of an individual to test and try out new payment systems, especially for online purchases. The participant also pointed out these users have a certain tendency to adopt to venturesome payment technologies such as Apple Pay or Samsung Pay through their mobile devices. Furthermore, the expert attributed innovativeness to a specific target audience, though the participant did not specify the characteristics of the named group of individuals:

*P1: "Innovativeness is important, depending on the target audience [...] to address that target audience appropriately."*

The most striking point of the above is that the expert suggested innovativeness as a compulsory feature, as the specific innovation-seeking audience expects new technologies to appear on companies' platforms. Hence, to satisfy the expectations of an audience that is knowledgeable about innovation on newspapers' websites, publishers must respond to personal innovativeness to influence readers' intention to use micropayments. According to the discussion with P1, it is generally expected that innovativeness should play an important role towards perceived usefulness, which in turn influences their attitude towards micropayments services. Innovativeness was included in the initial research model as an individual feature in section 2.8.6.1 and was promptly confirmed in the main study interviews.

The respective operational hypotheses are restated as following:

- H<sub>0</sub>:** There is no relationship between innovativeness and the perceived ease of use of micropayments.
- H<sub>1</sub>:** There is a relationship between innovativeness and the perceived ease of use of micropayments.

### **5.2.7.2 Micropayment knowledge**

Experts provided varying perspectives on conceptualisation of micropayment knowledge. The first attribute is to know about the existence of the payments service of micro transactions itself, which is underpinned by the following statements:

*P2: "I also think an important point is knowledge. People must know about micropayments."*

*P7: "Knowledge is the most important factor."*

The findings also suggested another attribute: consumers with little knowledge of online news and related payment methods on the internet rely on the most attractive features, while users with more web experience differentiate innovative and less-innovative

services. This revelation from the experts is tangential to the findings from the literature research of Rieh (2004), in which experienced web users were found to filter relevant from irrelevant information on the internet. The outcome of the semi-structured interviews is that consumers with an advanced knowledge of digital news and innovative payment solutions would find micropayments easier to use than those without. Remarkably, the motivation provided by the experts again matches the findings from the literature review on the knowledge factor in section 2.8.6.1.

The third attribute towards knowledge found in the interviews is time and was demonstrated by P5:

*P5: "Paying via micropayments [...] needs some time to get the user to know, to notice [it exists and can be utilised]."*

The expert made clear that there is an adaptation and learning process in which users familiarise themselves with micropayments, which evidently needs time. The statement above is a noteworthy example of how technology changes consumer behaviour. The pace of consumers transforming and shaping their behaviour keeps up with the pace of tech trends, such as new payments services on news portals.

In summary, the interview answers suggested that micropayment knowledge is the total of knowing about the existence of the micropayments service, web experience and time. Corresponding to innovativeness, the variable of micropayment knowledge was included in the initial research model as individual difference relating to perceived ease of use, which was confirmed in the expert interview. The main study affirmed micropayment knowledge as the central factor in the research model; hence, the subsequent operational hypotheses are reaffirmed from section 2.8.6.2:

- H<sub>0</sub>:** Knowledge of micropayments will not have a positive effect on the perceived ease of use of micropayments.
- H<sub>1</sub>:** Knowledge of micropayments will have a positive effect on the perceived ease of use of micropayments.

### **5.2.7.3 Perceived trust**

Trust was one of the most frequently mentioned perception factors in the experts' answers; it was mentioned in seven out of nine interviews (two newspaper experts, two micropayments experts, three industry observers). From the participants' responses, trust has been described as a consumer's belief that the publisher will meet their expectations,

especially for monetary transactions to read digital news. Since trust is a belief that is subjective in nature and based on the consumer's experience, the researcher used the term 'perceived trust' within this study. Trust was mentioned frequently by the interviewees: "it's all about trust", "a way of trusting", "Trust, yes sure!", "trust-based system", "transfer of trust", "translating trust", "no risk". The latter four expressions were found to relate to a common topic and hence, constitute the first dimension in the construct. The translation or transfer of perceived trust specifically refers to trust in the payment infrastructure, which is highlighted by the following statement:

*P6: "[Newspapers] will have to translate trust into the risk that is no longer with the user."*

Experts specified that consumers need faith and security in payment processes and payment methods that in turn positively influence consumers' attitude toward micropayments. One example provided in the interview was uncertainty in payment transactions by the attempt to defraud that needs to be eliminated by the publishers and positively turned into confidentiality as sought by the consumer. Hence, this aspect in the micropayments context is rather technology-driven, while the second trust dimension identified is linked to the newspapers' brand that provides the payment technology. Trust in the digital news provider was found to be the belief of consumers in the competency of the news brand. The experts referred this attribute to the reputation of the newspaper, which develops over time, and, in this process, enhances the perceived trust in the brand at the end of the consumer.

Transparency was the third dimension of trust found in the interviews and explained by one participant in the following statement:

*P3: "Transparency can mean things like reading time, how much content you can expect, a short summary of what the article is about, a little PDF that is not big enough to read, but big enough to see how large the article is, something like that. So, transparency is kind of a preview option. That's one big point."*

Hence, transparency was described as advanced service to readers, supporting perceived trust, in turn influencing consumers' usage of micropayments. This was affirmed by P1:

*P1: "We found that customers are ready to pay when it [the product] is transparent."*

Fairness is the fourth attribute discovered to play a crucial role towards perceived trust, as found by one participant:

*P7: "It's important not to hurt someone's fairness preferences".*

The expert specified that fairness is a matter enabling consumers to exit the payment process anytime at no cost, leaving the user to autonomously decide whether to continue reading and paying. The consumer is therefore not confronted with economic consequences that may occur when their expectations are not met, and as such, it enhances perceived trust.

To summarise the results of perceived trust, there are four construct dimensions that are trust in the payments infrastructure, trust in the digital news provider, transparency and fairness. Since trust is based on consumer interpretation and perceived personally, the variable was classified into the category of individual differences. Perceived trust had not been previously identified in relevant micropayments literature. It was therefore added as a supplementary variable to the initial research concept to test towards both perception factors, perceived usefulness and perceived ease of use.

Hence, the following operational hypotheses were suggested:

**H<sub>0</sub>:** Perceived trust will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Perceived trust will have a positive effect on the perceived usefulness of micropayments.

**H<sub>0</sub>:** Perceived trust will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Perceived trust will have a positive effect on the perceived ease of use of micropayments.

#### **5.2.7.4 Perceived content relevance**

Content relevance has been identified as another adoption enabler for micropayments. The participants stated that online content is perceived as relevant if readers find the content satisfying in relation to what they want to read. As such, news content relevance is based on the consumer's perception and knowledge of the news product and it is evident that the consumer's interpretation of relevance replaces objectivity. For that reason, the term 'perceived content relevance' was applied to this study. Several statements from the interviews demonstrate the importance of the construct, for example:

*P1: "Without true relevance the customer won't pay. Relevance is related to the need [of the consumer]. Relevance is when the customer's need is satisfied."*

*P5: "[Relevance means] serving the users with what they really want to read."*



P4: *“It depends on the content [...] if you are willing to pay for digital news.”*

The experts interviewed provided three perspectives on its conceptualisation towards the adoption to use micropayments: user-centricity, quality and time, which are explained below. User-centricity was described as a business approach that puts the customer at the centre, but also generates business-value:

P6: *“If publishers don’t embrace user-centricity, they are dead.”*

P6: *“There is a shift from the publisher to the user.”*

However, with the answers provided, the researcher claims that user-centricity also depends on the type of how the newspaper defines the customer; whether it is, for example, a prospective or existing news consumer. Unfortunately, the experts did not specify the type of customer in question. It can only be assumed that all customer types need a special focus to find news content relevant that yet influences their perception towards micropayments usage. To fulfil the special focus, the experts suggested offering personalised content and a personalised reading experience. One participant provided the example of personalised weather information to demonstrate user-centricity.

The second attribute relating to perceived content relevance is quality. Participants suggested that a product with lower quality would lower the perceived content relevance.

P4: *“It’s quite hard [for the newspaper] to maintain a good quality standard. A certain quality standard, I mean that’s the basis [for the consumer] in the end.”*

Some experts equalised quality with exclusive content that would make people willing to pay for digital news. Content that no other publisher offers was found to be exclusive and distinctive to others. One respondent believed there to be a relationship between quality and niche content. Although the characteristics of quality varied amongst the interviewees, they all highlighted a high-quality standard in general that will lead to perceived content relevance.

The third attribute is the moment that the content provided to the reader is perceived as relevant, which in turn enhances attitude towards micropayments. Two experts, P5 and P1, commented on this attribute:

P5: *“It’s basically serving the users with what they really want to read a specific moment.”*

P1: *“Articles are relevant for the customer [...] in terms of content or time.”*

The experts explained that the user must not feel they have missed an important story to read. It is the publisher's responsibility to provide the story to the consumer based on their previous reading behavioural pattern. Another example stated by P1 was that the publisher should not present an article twice to the user. Both of these requisitions enable the consumer to perceive news content to be relevant.

To recapitulate the results from this section, there are three construct attributes constituting perceived content relevance: user-centricity, quality and time. Similar to perceived trust in section 5.2.7.3, content relevance is subjective in nature and was hence classified as individual difference. Perceived content relevance was not previously identified in relevant micropayment literature or relevant mobile payment research. It constitutes a newly identified variable to be added to the initial research model that is assumed to have a dual effect on perceived ease of use and perceived usefulness. The following hypotheses were suggested:

**H<sub>0</sub>:** Perceived content relevance will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Perceived content relevance will have a positive effect on the perceived usefulness of micropayments.

**H<sub>0</sub>:** Perceived content relevance will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Perceived content relevance will have a positive effect on the perceived ease of use of micropayments.

### **5.2.8 Syntheses of findings**

It can be deduced that eight external variables were identified out of nine semi-structured interviews that fall into two categories. Four variables, namely mobility, convenience, later payment and single payment platform, were detected within the category of systems characteristics. Contrary to this, a set of four variables, namely innovativeness, micropayment knowledge, perceived trust, and perceived content relevance were categorised as individual differences. The construct of compatibility, which was revealed as a systems feature in the literature analysis of related mobile payments studies, was not confirmed in the expert interviews. All three constructs from the pilot study interviews were validated in the main study interviews, strengthening the initial relationships in the research model between the variables of single payment platform, perceived trust and perceived content relevance. Similarly, the existing constructs mobility, convenience, innovativeness and micropayment knowledge — already found to influence perceived

usefulness, perceived ease of use, attitude and intention to use micropayments in the literature research — were affirmed in the main study interviews.

Within the coding analysis, each construct was examined regarding specific characteristics that enable the adoption towards the particular construct and in turn, influence the usage of micropayments. Mobility was found to consist of three attributes: ubiquity, favour of low cost, and technological infrastructure. It was determined that ubiquity closely corresponds to research findings from Newman et al. (2016) and Mitchell et al. (2016). Convenience has been identified as a crucial adoption enabler for online micropayments, especially relating to simplicity, one-click and fast access in the payments process. Later payment was found to consist of its post-pricing characteristic solely. Experts specified single payment platform as a crucial external factor that drives the usage of micropayments by providing a common content platform that comprise articles from several publishers, but also a common payment platform where the user can use various payment methods. Innovativeness is perceived to affect perceived ease of use that affects the moderating variable and influences the intention to use micro-transactions. It is particularly relevant to an innovation-seeking audience, which was the only attribute detected from the interviews. Micropayment knowledge is driven by three attributes: knowing the payment option, the level of web experience and time. Perceived trust is a mostly technology-driven variable that is determined by the trust in the payments infrastructure, trust in the digital news provider, transparency and fairness of the payment process. Perceived content relevance was found to influence the use of micropayments by the implementation of a user-centred business approach, high quality level of the news offering and the right timing of the presentation of particular news content to the consumer. The summary of all the factor attributes can be seen in Table 5.6.

**Table 5.6: Summary of factor attributes from main study interviews**

	Factor	Attribute 1	Attribute 2	Attribute 3	Attribute 4
System characteristics	1 Mobility (MOB)	Ubiquity	Favour of low cost	Technological infrastructure	
	2 Compatibility (COM)	n/a	n/a	n/a	n/a
	3 Convenience (CON)	Simplicity	One-click	Fast access	
	4 Later payment (LPM)	Post-pricing			
	5 Single payment platform (SPP)	Common content platform	Common payment platform		
Individual differences	6 Innovativeness (INN)	Innovation-seeking audience			
	7 Micropayment knowledge (KNO)	Knowledge	web experience	Moment/time	
	8 Perceived trust (PTR)	Trust in the payments infrastructure	Trust in digital news providers	Transparency	Fairness
	9 Perceived content relevance (PCR)	User-centricity	Quality	Timing	

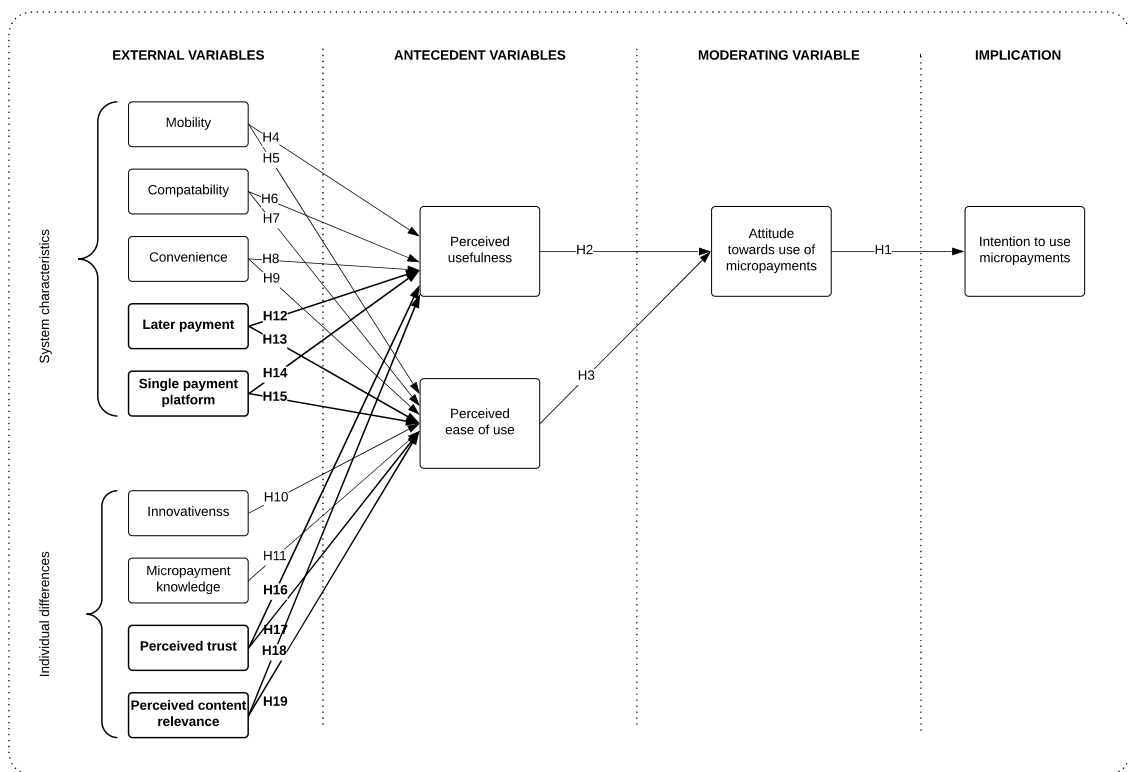
Source: Main study data.

The newly-discovered variables provided by the interview participants were each suggested to have positive relationships with the antecedent variables perceived usefulness and perceived ease of use, in turn influencing the attitude towards micropayments and the intention to use them. Thus, the main study interviews contributed to the Alpha model by the addition of eight new relationships arriving at the Alpha 1 model with a total of 19 operational hypotheses.

### 5.2.9 Alpha 1 model

In the interview analysis above, several direct relationships were identified, connecting the system characteristics of later payment, single payment platform and the individual differences of perceived trust and perceived content relevance with perceived ease of use, perceived usefulness, and attitude to micropayments, as well as intention to use micropayments. More specifically, the factors of later payment, single payment platform, perceived trust and perceived content relevance add to the formerly identified antecedents from the literature review. Hence, the factors from the interview stage contributed to the Alpha model and led to the Alpha 1 model. The Alpha 1 model, depicted in Figure 5.6, provides an integrated view of the constructs and inter-relationships detailed above.

**Figure 5.6: Alpha 1 model**



Source: Figure by author, adapted from Davis (1985); Venkatesh and Davis (2000); Venkatesh et al. (2003).

### 5.3 Main study: survey stage two

#### 5.3.1 Revision of methodology

The methodology of the primary stage of the main study was outlined in section 4.5.3 and the data collection was described in section 4.5.4. The researcher explained that a web survey (Appendix C) would be sent out by email to 8,000 NZZ newsreaders that met the specific obligations as described in detail in section 4.6 with the main requirement of not having an active subscription.

Duplicate and invalid contact information was removed from the list in the selection process to ensure that each member was contacted only once and that the bounce rate was minimized. This resulted in an updated list of 7,302 contacts. The web-based questionnaire was distributed by email to 7,291 consumers in the list. The difference comprised two hard bounces (emails didn't exit any longer), seven soft bounces (full inbox) and two block bounces (spam). The delivery quote of 99.85% proves an extremely high quality of the selection process and the particular emails. The consumer survey was mailed out on Wednesday, 6<sup>th</sup> December 2017 at 3pm. The day of the week and time of delivery were chosen to ensure highest possible response rates for data collection.

The consumers were requested to respond to 48 questions with four initial questions relating to micropayments, 41 mandatory questions in the main part, and three closing voluntary questions related to demographic data. The tool Marketing Cloud from Salesforce.com was used to deliver the email to the consumer base and the tool umfrageonline.ch was used to build the survey and collect the data. No major or minor problems occurred in the development and execution of the questionnaire. This result has been expected since it was checked with eight specialists and two readers to eliminate critical errors in the deployment process. The period of the data collection of the web survey lasted for three weeks until 27<sup>th</sup> December 2017. During these 21 days, 775 participants partially completed the web survey and 262 fully completed the survey by answering all of the 48 questions. The 775 responses equate to a response rate of 10.63%, which exceeded the expected 8-10% response rate as described in section 4.6. At the completion of the data collection process, the data from umfrageonline.ch was manually exported into a Microsoft Excel spreadsheet. The collected information were then checked for noticeable errors. No obvious errors were detected. The data were then manually imported into Smart PLS 3.2.7 for statistical analyses.

### **5.3.2 Respondents' profile**

Among these 262 respondents, 198 (76%) were male respondents and 64 (24%) were female respondents. Hence, men were predominant in the sample. Furthermore, the sample was slightly skewed towards older adults with 143 (55%) aged 51 and older. The younger adults comprised of 26 respondents aged 18-30 (10%), followed by 93 aged 31-50 (36%). Among the respondents, only 39 (15%) had a monthly income of less than CHF 4,000, followed by 22 (8%) having a general income of CHF 4,000 to 6,000. Additionally, 39 (15%) monthly earn CHF 6,000 to 8,000. Demographic information pertaining to the gender, age and monthly income of the research respondents is listed in Table 5.7.

**Table 5.7: Main study (stage two) — demographic data**

Characteristic	n	%	Cumulative %
<i>Gender</i>			
Male	198	75.6%	75.6%
Female	64	24.4%	100.0%
<i>Age</i>			
18-30	26	9.9%	9.9%
31-40	32	12.2%	22.1%
41-50	61	23.3%	45.4%
51-60	84	32.1%	77.5%
61-70	46	17.6%	95.0%
71+	13	5.0%	100.0%
<i>Income</i>			
CHF 4,000 or below	39	14.9%	14.9%
CHF 4,000 – CHF 6,000	22	8.4%	23.3%
CHF 6,000 – CHF 8,000	39	14.9%	38.2%
CHF 8,000 – CHF 10,000	42	16.0%	54.2%
CHF 10,000 – CHF 12,000	44	16.8%	71.0%
CHF 12,000 or above	76	29.0%	100.0%

*Note.* N= 262.

Source: Main study data.

### 5.3.3 Descriptive statistics

First of all, an overview of the collected data in the survey sample of the main part using descriptive statistics is provided in Table 5.8, with the constructs and their indicators stated in the order of the questions in the web survey. The table shows the major statistical metrics, including sample size, minimum and maximum values on the five-point Likert scale, mean and construct mean, median and standard deviation for each indicator (question) included in the questionnaire.

**Table 5.8: Descriptive statistics**

Construct	Indicator	Min	Max	M	Construct M	Mdn	SD
Perceived usefulness	PUN_1	1	5	3.240	2.899	3	1.178
	PUN_2	1	5	2.813		3	1.310
	PUN_3	1	5	2.645		3	1.287
Perceived ease of use	PEU_1	1	5	4.107	3.717	4	0.836
	PEU_2	1	5	3.324		3	1.165
	PEU_3	1	5	3.721		4	0.926
Attitude towards use of micropayments	ATT_1	1	5	2.748	2.812	3	1.289
	ATT_2	1	5	2.840		3	1.304
	ATT_3	1	5	2.847		3	1.198
Intention to use micropayments	INT_1	1	5	2.859	2.639	3	1.185
	INT_2	1	5	2.118		2	1.094
	INT_3	1	5	2.531		3	1.206
	INT_4	1	5	3.046		3	1.175
Mobility	MOB_1	1	5	3.168	3.263	3	1.183
	MOB_2	1	5	3.183		3	1.216
	MOB_3	1	5	3.439		4	1.133
Compatibility	COM_1	1	5	4.008	3.083	4	0.843
	COM_2	1	5	2.725		3	1.214
	COM_3	1	5	2.515		2	1.238
Convenience	CON_1	1	5	3.122	3.099	3	1.067
	CON_2	1	5	3.275		3	1.266
	CON_3	1	5	2.901		3	1.232
Later payment	LPM_1	1	5	3.874	3.261	4	1.082
	LPM_2	1	5	2.740		3	1.163
	LPM_3	1	5	3.168		4	1.317
Single payment platform	SPP_1	1	5	3.588	3.749	4	1.259
	SPP_2	1	5	3.885		4	1.205
	SPP_3	1	5	3.775		4	1.112
Innovativeness	INN_1	1	5	3.531	3.294	4	0.964
	INN_2	1	5	3.053		3	1.025
	INN_3	1	5	3.298		3	0.971
Micropayments knowledge	KNO_1	1	5	2.863	3.414	3	1.017
	KNO_2	1	5	3.779		4	0.995
	KNO_3	1	5	3.599		4	1.203
Perceived trust	PTR_1	1	5	3.031	2.990	3	1.149
	PTR_2	1	5	3.115		3	0.950
	PTR_3	1	5	3.027		3	0.963
	PTR_4	1	5	2.786		3	0.912
Perceived content relevance	PCR_1	1	5	3.080	3.127	3	1.259
	PCR_2	1	5	2.687		3	1.163
	PCR_3	1	5	3.615		4	1.166

*Note.* N = 262; Min/Max = minimum and maximum values of Likert Scale; M = mean; Construct M = construct mean; Mdn = median; SD = standard deviation.

Source: Main study data.



The construct perceived usefulness (PUN) achieved a composite mean of 2.899, which was the third lowest perception factor compared to the other 12 constructs ( $\bar{x}$ =2.812-3.749). However, the respondents perceived micropayments as a relatively useful way to pay for online news (PUN\_1,  $\bar{x}$ =3.240). On the other hand, respondent perception of micropayments as flexible to interact with was poor (PUN\_2,  $\bar{x}$ =2.813), as was their perception of being easy to use (PUN\_3,  $\bar{x}$ =2.645).

The construct mean for perceived ease of use (PEU) was 3.717, indicating that the respondents perceived micropayments as very easy to use services. Results showed that “learning micropayments is easy” being the highest score among all indicators (PEU\_1,  $\bar{x}$ =4.107), followed by the comment “using micropayments is easy” (PEU\_3,  $\bar{x}$ =3.721) and “flexible to interact with” (PEU\_2,  $\bar{x}$ =3.324).

The construct attitude towards the use of micropayments (ATT) achieved a construct mean of 2.812, which was the second lowest variable compared to the other constructs. The indicator means showed results with similar values: The respondents “liked the idea of micropayments for online news” (ATT\_1,  $\bar{x}$ =2.748), stated they “would enjoy purchasing online news through micropayments” (ATT\_2,  $\bar{x}$ =2.840) and found micropayments “interesting” (ATT\_3,  $\bar{x}$ =2.847).

The intention to use micropayments (INT) had a composite mean of 2.639, which was the lowest perception factor, suggesting that the participants generally do not have a strong interest in micropayment services from newspapers. However, the respondents found micropayments a useful payment method for digital news (INT\_1,  $\bar{x}$ =2.859) and are confident about using these, both in the next six months (INT\_2,  $\bar{x}$ =2.531) and in five years from now (INT\_3,  $\bar{x}$ =3.046). Scores also showed that the reading frequency would not increase (INT\_4,  $\bar{x}$ =2.118), resulting in the lowest score among all items.

Mobility (MOB) had a construct mean of 3.263, suggesting that micropayment services are strongly flexible that can be used “anytime” (MOB\_1,  $\bar{x}$ =3.168), “anywhere” (MOB\_2,  $\bar{x}$ =3.183) and while “traveling” (MOB\_3,  $\bar{x}$ =3.439).

The composite score of compatibility (COM) was 3.083, indicating that the respondents are confident in paying a micro-fee for digital news content. The strongest confidence was on the compatibility of “existing payment technologies” (COM\_1,  $\bar{x}$ =4.008),

compared to the rather difficult perception that they are compatible with their online shopping behaviour (COM\_2,  $\bar{x}$ =2.725) and lifestyle (COM\_3,  $\bar{x}$ =2.515).

Convenience (CON) had a construct score of 3.099, referring to micropayments as a convenient service for online news, which is particularly useful in different situations (CON\_1,  $\bar{x}$ =3.122). However, respondents trusted most on the perception indicator that they only pay for the content they actually consume (CON\_2,  $\bar{x}$ =3.275). The statement that saw the poorest score was “read in a comfortable and fast way” (CON\_3,  $\bar{x}$ =2.901).

Later payment (LPM) had a composite mean of 3.261, indicating that respondents chose to read their news first and pay for the consumed articles later, preferably at the end of each month (LPM\_3,  $\bar{x}$ =3.168). The strongest result showed that respondents would not want to be “interrupted” in their reading flow (LPN\_1,  $\bar{x}$ =3.874).

The construct single payment platform (SPP) achieved the highest composite mean of 3.749, suggesting that respondents would highly prefer to pay for their digital news consumption on a combined platform. The statement “pay with one-click” saw the highest score (SPP\_2,  $\bar{x}$ =3.885); the statement “provide payment details only once” saw the lowest score (SPP\_1,  $\bar{x}$ =3.388).

Innovativeness (INN) had a construct score of 3.294, indicating that the readers perceive micropayments as an innovative technology. Readers considered themselves just as well informed about new technologies (INN\_1,  $\bar{x}$ =3.531) as other people. However, they do not trust that they are among the first to try new technologies (INN\_2,  $\bar{x}$ =3.053) when recommending new technologies to others (INN\_3,  $\bar{x}$ =3.298).

Micropayment knowledge (KNO) scored a composite mean of 3.414. The respondents rated the statement “enjoy purchasing products of small amounts” rather poorly (KNO\_1,  $\bar{x}$ =2.863), while they stated they might well use credit cards, PayPal and ApplePay through micropayments (KNO\_2,  $\bar{x}$ =3.779) in a confident way (KNO\_3,  $\bar{x}$ =3.599).

The construct perceived trust (PTR) had a construct mean of 2.990, which was lower than the score of perceived ease of use (PEU), suggesting that these two might not be directly related from a reader perspective. So, the onus is on newspapers to show that micropayments are “trustworthy” (PTR\_1,  $\bar{x}$ =3.031) and “trustful methods to pay for digital news” (PTR\_2,  $\bar{x}$ =3.115), which applies also to other “media” (PTR\_3,  $\bar{x}$ =3.027).

Although publishers provide a clear presentation of their micropayment services, they are not perceived as “trusted” (PTR4,  $\bar{x}$ =2.786).

Perceived content relevance (PCR) achieved a score of 3.127. The results saw the willingness amongst the respondents to pay for content that is perceived “valuable” (PCR\_3,  $\bar{x}$ =3.615) and “relevant” (PCR\_1,  $\bar{x}$ =3.080), yet not for “important” (PCR\_2,  $\bar{x}$ =2.687).

#### **5.3.4 Normality analysis**

Before approaching the inferential statistical analysis, it was important to assess data normality for each scale item. The lack of symmetry (skewness) and the peakedness or flatness (kurtosis) are two tests that identify when the distribution deviates from normality on continuous variables (Ghasemi and Zahediasl, 2012). Thus, each indicator from the questionnaire was computed individually with the help of SmartPLS 3.2.7. The results of the tests for skewness and kurtosis are presented in Table 5.9. Results of zero in the skewness test and values of three indicate that data is perfectly normalised and, as such, symmetric, which is not an ideal assumption in business research (Pallant, 2013). According to Bulmer (1979), if skewness is less than -1 or greater than +1, the distribution is highly skewed; between -1 and -1/2 or between +1/2 and +1, the distribution is moderately skewed; if skewness is between -1/2 and +1/2, the distribution is approximately symmetric. As put forward by Westfall (2014), a normal distribution is classed as having kurtosis at exactly three and is called mesokurtic; a distribution with kurtosis <3 is called platykurtic; a distribution with kurtosis >3 is known as leptokurtic.

The results in this study saw varying degrees of negative skewness and kurtosis, but all were within the acceptable ranges, with the exception of only one scale item: SPP\_2, which was highly skewed (-1.068). Due to the proximity of this value to the -1.0 threshold, this value was retained. Otherwise, the data was found distributed normally.

**Table 5.9: Data normality analysis**

Construct items	N	Skewness	Kurtosis
PUN_1	262	-0.308	-0.675
PUN_2	262	0.084	-1.143
PUN_3	262	0.221	-1.082
PEU_1	262	-0.993	1.159
PEU_2	262	-0.335	-0.755
PEU_3	262	-0.549	0.014
ATT_1	262	0.103	-1.047
ATT_2	262	0.030	-1.081
ATT_3	262	0.043	-0.825
INT_1	262	0.041	-0.778
INT_2	262	0.785	-0.042
INT_3	262	0.335	-0.798
INT_4	262	-0.132	-0.787
MOB_1	262	-0.260	-0.811
MOB_2	262	-0.291	-0.859
MOB_3	262	-0.639	-0.305
COM_1	262	-0.862	1.212
COM_2	262	0.180	-0.869
COM_3	262	0.426	-0.763
CON_1	262	-0.151	-0.514
CON_2	262	-0.313	-0.950
CON_3	262	-0.019	-0.964
LPM_1	262	-0.674	-0.477
LPM_2	262	0.343	-0.709
LPM_3	262	-0.273	-1.187
SPP_1	262	-0.673	-0.559
SPP_2	262	-1.068	0.261
SPP_3	262	-0.820	0.079
INN_1	262	-0.074	-0.732
INN_2	262	0.171	-0.549
INN_3	262	-0.048	-0.534
KNO_1	262	0.191	-0.381
KNO_2	262	-0.855	0.692
KNO_3	262	-0.672	-0.414
PTR_1	262	-0.227	-0.821
PTR_2	262	-0.365	-0.025
PTR_3	262	-0.338	-0.216
PTR_4	262	-0.079	-0.067
PCR_1	262	-0.152	-1.074
PCR_2	262	0.207	-0.892
PCR_3	262	-0.810	-0.076

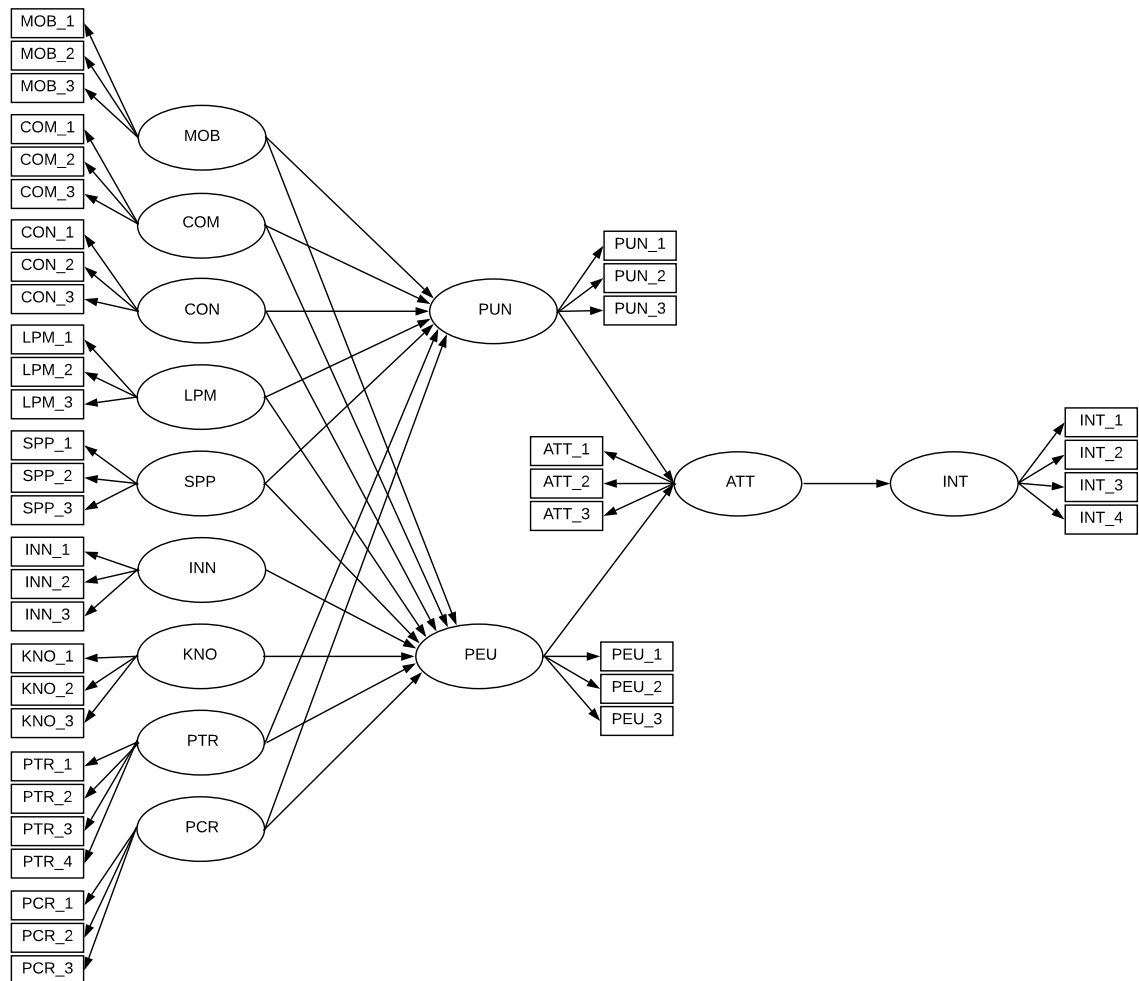
Source: Main study data.

### 5.3.5 Alpha 1 model SEM hypothesis testing

The Alpha 1 model was previously described in section 5.2.9, with a replica plotted as a basis for empirical hypothesis testing and shown in Figure 5.7. The replica shows the summarised series of hypothesised relationships between the variables and construct indicators for each variable, drawn from the literature synthesis and the supplementary qualitative approach in the main study.

The chosen path model in this DBA study is reflective, as depicted with the arrows going from the latent variable to the measured indicator variables. The reflective path model was chosen because the indicators represent the set of items, with each reflecting the latent variable measured (Hair et al, 2010; Garson, 2016).

**Figure 5.7: Alpha 1 model with indicators**



Source: Main study data.

The complete set of hypotheses in Figure 5.6 as stated in section 5.2.9, is repetitively listed for embarking statistical hypothesis testing.

- H1:** The attitude towards using micropayments will have a positive effect on the intention to use micropayments.
- H2:** Perceived usefulness will have a positive effect on the attitude towards micropayments.
- H3:** Perceived ease of use will have a positive effect on attitudes towards micropayments.
- H4:** Mobility will have a positive effect on the perceived usefulness of micropayments.
- H5:** Mobility will have a positive effect on the perceived ease of use of micropayments.
- H6:** There is a relationship between compatibility and the consumer's perceived usefulness of micropayments.
- H7:** There is a relationship between compatibility and the consumer's perceived ease of use of micropayments.
- H8:** Convenience will have a positive effect on the perceived usefulness of micropayments.
- H9:** Convenience will have a positive effect on the perceived ease of use of micropayments.
- H10:** There is a relationship between innovativeness and the perceived ease of use of micropayments.
- H11:** Knowledge of micropayments will have a positive effect on the perceived ease of use of micropayments.
- H12:** Later payment will have a positive effect on the perceived usefulness of micropayments.
- H13:** Later payment will have a positive effect on the perceived ease of use of micropayments.
- H14:** Single payment platform will have a positive effect on the perceived usefulness of micropayments.
- H15:** Single payment platform will have a positive effect on the perceived ease of use of micropayments.
- H16:** Perceived trust will have a positive effect on the perceived usefulness of micropayments.
- H17:** Perceived trust will have a positive effect on the perceived ease of use of micropayments.
- H18:** Perceived content relevance will have a positive effect on the perceived usefulness of micropayments.
- H19:** Perceived content relevance will have a positive effect on the perceived ease of use of micropayments.

### 5.3.6 Validity and reliability of scale items

#### 5.3.6.1 Confirmatory factor analysis

The widespread use of statistical software packages has made data analysis generally easier and accessible, but supporting statistical knowledge may not always be straightforward (Williams et al., 2010). Kline (1994), cited in Pett et al. (2003, p. 10), adduces:

*“With the advent of powerful computers and the dreaded statistical packages which go with them, factor analysis and other multivariate methods are available to those who have never been trained to understand them.”*

Hence, the analytical approach of factor analysis was previously employed, providing construct validity of scale measurements. While exploratory factor analysis (EFA) is used to assess the dimensions to generate a theory from a large range of constructs, in contrast, confirmatory factor analysis (CFA) is used to test how well the measured scales represent the number of constructs in a proposed model (Hair et al., 2010; Williams et al., 2010). This DBA study was conducted using CFA to assess the validity of the constructs in the comprehensive conceptual model.

The path loadings, connecting the factors to the indicator variables, should be above 0.7 for a well-fitting reflective model and indicator reliability (Hair et al., 2010; Henseler et al., 2012).

Table 5.10 shows the loadings for each item in the respective construct. 35 items loaded successfully onto a single factor as they exceeded 0.7. However, there are six items (COM\_1, KNO\_1, LPM\_1, LMP\_2, PEU\_1, PEU\_3), highlighted in bold having loadings between -0.102 and 0.532 and therefore, don't fulfil the minimum measurement loading of 0.7. Hence, these items should be dropped and since the indicators are reflective, the latent variable will still have the same meaning after dropping (Garson, 2016). Therefore, these six loadings on the constructs used in the Alpha 1 model were eliminated to ensure indicator reliability.

**Table 5.10: Outer factor loadings — initial set**

Indicator	ATT	COM	CON	INN	INT	KNO	LPM	MOB	PCR	PEU	PTR	PUN	SPP
ATT_1	0.873												
ATT_2	0.941												
ATT_3	0.939												
<b>COM_1</b>		<b>0.316</b>											
COM_2		0.925											
COM_3		0.922											
CON_1			0.887										
CON_2			0.881										
CON_3			0.915										
INN_1				0.837									
INN_2				0.904									
INN_3				0.907									
INT_1					0.878								
INT_2					0.855								
INT_3					0.907								
INT_4					0.856								
<b>KNO_1</b>						<b>0.477</b>							
KNO_2						0.854							
KNO_3						0.856							
LPM_1							0.770						
<b>LPM_2</b>							<b>-0.102</b>						
<b>LPM_3</b>							<b>-0.682</b>						
MOB_1								0.952					
MOB_2								0.960					
MOB_3								0.861					
PCR_1									0.841				
PCR_2									0.872				
PCR_3									0.829				
<b>PEU_1</b>										<b>0.442</b>			
PEU_2										0.897			
<b>PEU_3</b>										<b>0.532</b>			
PTR_1											0.815		
PTR_2											0.784		
PTR_3											0.800		
PTR_4											0.703		
PUN_1												0.898	
PUN_2												0.895	
PUN_3												0.881	
SPP_1													0.880
SPP_2													0.826
SPP_3													0.788

Note. N= 262.

Source: Main study data.



After the recalculation in SmartPLS, a notable exception of PTR\_4 can be seen, which changed from 0.703 to 0.696. Due to the proximity of the value to the 0.7 threshold, this effect only appearing for one item, it was decided to keep this item.

The loadings of 1.000 for LPM\_3 and PEU\_2 represent the absolute contribution to its latent variable in the reflective model. Although values of 1 are rather unusual, the absolute maximum of 1 is acceptable in SmartPLS with the larger the loadings, the more reliable the measurement model (Garson, 2016). However, no omissions for the 1 value were found in the analysis. Hence, LMP\_3 and PEU\_2 are found very strong measures in the model.

Table 5.11 shows the ultimately final factor loadings — in alphabetical order — used for further statistical analysis.

**Table 5.11: Outer factor loadings — final set**

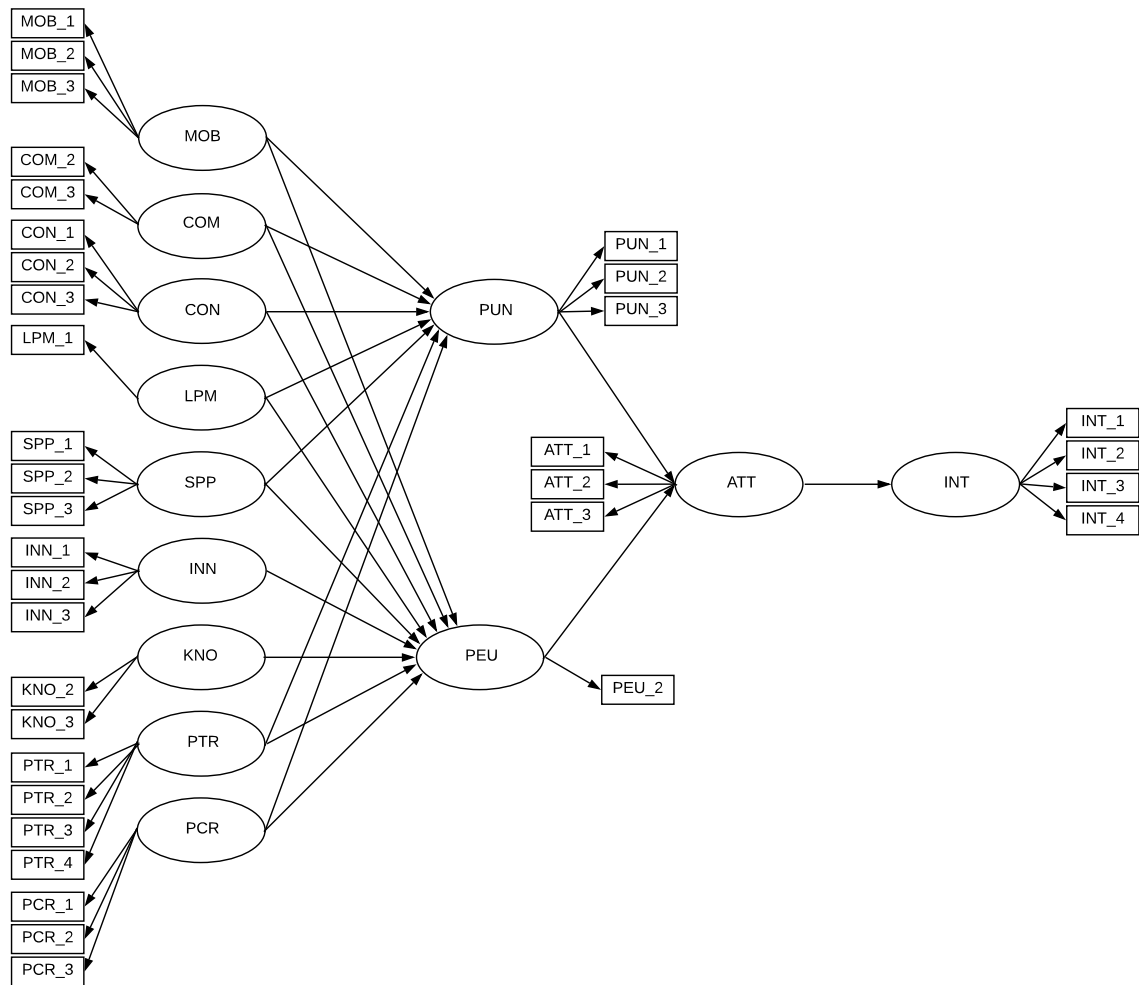
Indicator	ATT	COM	CON	INN	INT	KNO	LPM	MOB	PCR	PEU	PTR	PUN	SPP
ATT_1	0.873												
ATT_2	0.941												
ATT_3	0.939												
COM_2		0.932											
COM_3		0.945											
CON_1			0.885										
CON_2			0.884										
CON_3			0.914										
INN_1				0.835									
INN_2				0.896									
INN_3				0.915									
INT_1					0.878								
INT_2					0.855								
INT_3					0.907								
INT_4					0.856								
KNO_2						0.866							
KNO_3						0.879							
LPM_3							1.000						
MOB_1								0.952					
MOB_2								0.960					
MOB_3								0.860					
PCR_1									0.842				
PCR_2									0.875				
PCR_3									0.825				
PEU_2										1.000			
PTR_1											0.826		
PTR_2											0.775		
PTR_3											0.797		
PTR_4											0.696		
PUN_1												0.899	
PUN_2												0.895	
PUN_3												0.881	
SPP_1													0.886
SPP_2													0.815
SPP_3													0.791

Note. N= 262.

Source: Main study data.

Figure 5.8 depicts the revised Alpha 1 model, named Alpha 2 model, in SmartPLS 3.2.7 after the elimination of the six indicators comprising a value below the 0.7 threshold.

**Figure 5.8: Alpha 2 model with indicators**



Source: Main study data.

### 5.3.6.2 Cronbach's coefficient alpha

The reliability of the constructs within measurement models must be evaluated to ensure a good fit with the various ways in which reliability can be measured. In published reliability coefficients, Cronbach's coefficient alpha (Cronbach, 1951) is considered the best choice for assessing internal consistency and it is almost universally applied in consumer research (Cho and Kim, 2015; Bonett and Wright, 2015). In this study, the Cronbach's alpha values were calculated using SmartPLS 3.2.7 for each construct, which are presented in Table 5.12. The acceptable level of model fit is  $\alpha > 0.60$  (Streiner, 2003; Hair et al., 2010) with a recommended level  $\alpha > 0.7$  (Peterson, 1994; Fornell and Larcker, 1981).

**Table 5.12: Cronbach's alpha with number of items**

Construct label	Full name of construct	Cronbach's alpha	Number of items
ATT	Attitude to use micropayments	0.907	3
COM	Compatibility	0.865	2
CON	Convenience	0.875	3
INN	Innovativeness	0.862	3
INT	Intention to use micropayments	0.897	4
KNO	Knowledge of micropayments	0.686	2
LPM	Later payment	1.000	1
MOB	Mobility	0.915	3
PCR	Perceived content relevance	0.804	3
PEU	Perceived ease of use	1.000	1
PTR	Perceived trust	0.788	3
PUN	Perceived usefulness	0.871	3
SPP	Single payment platform	0.782	3

Source: Main study data.

All 13 items in Cronbach's alpha scored values between 0.686 and 1.000, which exceeded the recommended level of 0.6. Twelve values were greater than the recommended level of 0.7 and 10 values were above 0.8. LPM and PEU indicated the highest reliability with rare limits at the highest level (1.000). Thus, the constructs met the conditions for reliability and internal consistency. Based on the results in section 5.3.6.1 and 5.3.6.2, it was concluded that the measured item scales were valid and reliable.

### 5.3.7 Evaluation of measurement model

#### 5.3.7.1 Convergent validity

Average variance extracted (AVE) is used to test convergent validity and examines the average communality for latent factors in reflective measurement models (Garson, 2016). The minimum threshold for this validity test is 0.5 (Hair et al., 2010) and hence, a construct with an AVE value  $> 0.5$  explains a significant proportion of the variance of the respective indicators in the model. The AVE measures for all constructs included in the measurement model are displayed in Table 5.13. The values range from 0.691 to 1.000 — with LPM and PEU repetitively abutted upon the extraordinary maximum (1.000) — and thus are well above the acceptable limit of 0.5, which implies that convergent validity within the model is fully compliant with the prescribed norm.

**Table 5.13: Average variance extracted**

Construct label	Full name of construct	AVE
ATT	Attitude to use micropayments	0.843
COM	Compatibility	0.881
CON	Convenience	0.800
INN	Innovativeness	0.779
INT	Intention to use micropayments	0.764
KNO	Knowledge of micropayments	0.761
LPM	Later payment	1.000
MOB	Mobility	0.856
PCR	Perceived content relevance	0.718
PEU	Perceived ease of use	1.000
PTR	Perceived trust	0.601
PUN	Perceived usefulness	0.795
SPP	Single payment platform	0.691

Source: Main study data.

### 5.3.7.2 Discriminant validity

Discriminant validity evaluates whether constructs that are not supposed to be related are actually unrelated. AVE, as introduced in section 5.3.7.1, can also be used to establish discriminant validity by applying the Fornell–Larcker criterion (Fornell and Larcker, 1981). This establishes that for any construct, the square roots of the AVE values are needed to be greater than its correlation with any other construct (Fornell and Larcker, 1981; Garson, 2016). In the SmartPLS 3.2.7 output table, the variance of any construct, stated within its bundle of indicators may be bigger than the variance relating to any other construct.

Table 5.14 reflects the respective loadings of each construct. The square roots of AVE are stated as the top number in the diagonal cells in bold and as it can be seen, any construct column is greater than the correlations below. Hence, discriminant validity is established in the model. The negative cross-loadings indicate that the correlation between the opposing variables did not capture all of the opposition for these constructs. The purpose, however, was to identify contaminations between the values, yet no loadings were found invariant between constructs.

**Table 5.14: Cross-loadings between the constructs in the model**

Construct	ATT	COM	CON	INN	INT	KNO	LPM	MOB	PCR	PEU	PTR	PUN	SPP
ATT	<b>0.918</b>												
COM	0.740	<b>0.939</b>											
CON	0.731	0.654	<b>0.895</b>										
INN	0.146	0.246	0.179	<b>0.880</b>									
INT	0.868	0.824	0.728	0.178	<b>0.874</b>								
KNO	0.492	0.524	0.510	0.336	0.526	<b>0.872</b>							
LPM	-0.455	-0.412	-0.368	-0.070	-0.456	-0.303	<b>1.000</b>						
MOB	0.664	0.576	0.750	0.177	0.670	0.477	-0.320	<b>0.925</b>					
PCR	0.699	0.663	0.788	0.119	0.697	0.480	-0.363	0.598	<b>0.848</b>				
PEU	0.641	0.522	0.655	0.123	0.617	0.392	-0.301	0.635	0.527	<b>1.000</b>			
PTR	0.665	0.653	0.742	0.267	0.678	0.581	-0.337	0.656	0.647	0.548	<b>0.775</b>		
PUN	0.823	0.713	0.740	0.123	0.818	0.497	-0.414	0.651	0.680	0.648	0.654	<b>0.892</b>	
SPP	0.577	0.549	0.602	0.173	0.611	0.545	-0.215	0.541	0.586	0.470	0.618	0.594	<b>0.832</b>

*Note.* ATT = Attitude towards use; COM = Compatibility; CON = Convenience; INN = Innovativeness; INT = Intention to use micropayments; KNO = Micropayment knowledge; LPM = Later payment; MOB = Mobility; PCR = Perceived content relevance; PEU = Perceived ease of use; PTR = Perceived trust; PUN = Perceived usefulness; SPP = Single payment platform.

Source: Main study data.

### 5.3.8 Testing the structural model

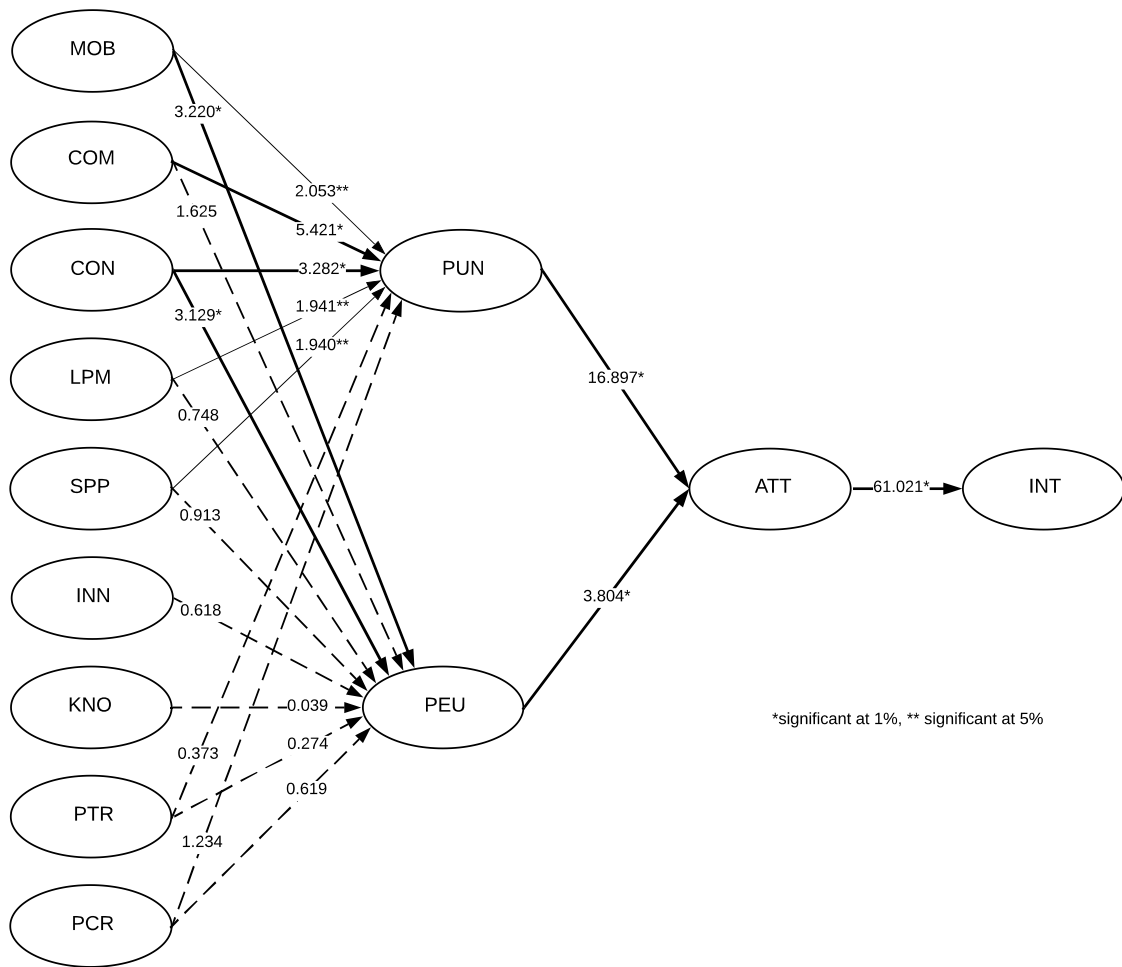
As stated in section 5.2.9, the research model (see Figure 5.8) is tested by using partial least squares (PLS) analysis. The outcomes of the PLS analysis are t-values and path coefficients for the proposed hypotheses.

#### 5.3.8.1 t-Value

Hair et al. (2010) highlighted the importance of significance t-tests between the constructs in a structural model. The relevant t-values are reflected in Figure 5.9 and refer to each joint relation hypothesised in the research model. This figure shows the second to last stage of the research model, representing the Beta 1 model. The figure also displays the effects of interaction between the variables in question.

This study adopted a one-tailed t-test to evaluate whether or not significant relationships exist between the constructs in the model. These were measured at the 1% and 5% significance levels.

**Figure 5.9: Beta 1 model with t-Values**



*Note.* MOB = Mobility; COM = Compatibility; CON = Convenience; LPM = Later payment; SPP = Single payment platform; INN =Innovativeness; KNO = Micropayment knowledge; PTR = Perceived trust; PCR = Perceived content relevance; PUN = Perceived usefulness; PEU = Perceived ease of use; ATT = Attitude towards use; INT = Intention to use micropayments. t-values > 2.33 are in boldface; t-values < 1.65 are stated with a dotted line.

Source: Main study data.

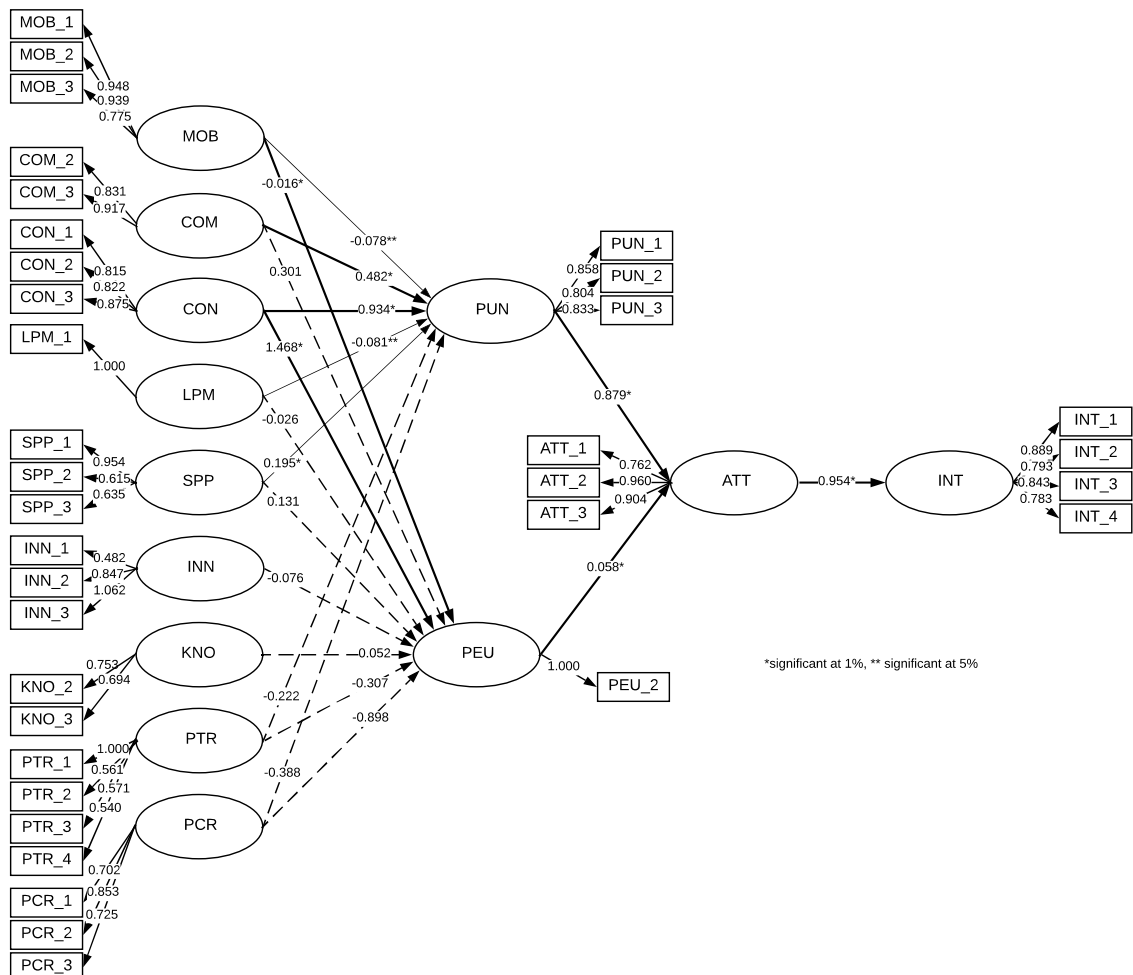
As shown in Figure 5.9, seven out of 19 direct joint relations are significant at the 5% significance level since its t-values are greater than 1.65. Out of these seven direct relationships, four links are significant at the 1% level with t-values greater than 2.33, which pertains to compatibility on perceived usefulness, convenience on perceived usefulness and on perceived ease of use and mobility on perceived ease of use. It can also be seen in the figure that all three indirect relationships are significant at the 1% level (t-values > 2.33). The direct and indirect linkages are discussed in detail in section 5.3.8.3.

The final stage of the research model — named the Beta 2 model — showing the individual path coefficients is presented in the following section.

### 5.3.8.2 Path coefficients

As emphasised by Hair et al. (2010), path coefficients are weights that help to accomplish the contribution of any path to the overall fit of the structural model. In other words, path coefficients evaluate the reasonableness of the relationships of interest in the structural model. Weights vary from -1 to +1 and are strongest close to -1 and +1 and weakest when close to 0 (Garson, 2016). The Beta 2 model in Figure 5.10 shows the respective path coefficients with a value of 0.954 between attitude and intention to use micropayments, thus indicating an extremely strong positive relationship between the two constructs. Another strong positive relationship exists between perceived usefulness and attitude to use (0.879). A moderate positive relationship was found between perceived ease of use and attitude to use (0.058).

**Figure 5.10: Beta 2 model with path coefficients**



*Note.* MOB = Mobility; COM = Compatibility; CON = Convenience; LPM = Later payment; SPP = Single payment platform; INN = Innovativeness; KNO = Micropayment knowledge; PTR = Perceived trust; PCR = Perceived content relevance; PUN = Perceived usefulness; PEU = Perceived ease of use; ATT = Attitude towards use; INT = Intention to use micropayments. Significant path at 1% in boldface; path with no significance are stated with a dotted line.

Source: Main study data.



The path coefficients of the indirect relationships are further considered in terms of interaction effects in the following section 5.3.8.3, which focuses on the assessment of the 19 hypotheses.

### **5.3.8.3 Assessment of hypotheses**

#### **Hypothesis 1**

**H<sub>0</sub>:** The attitude towards using micropayments will not have a positive effect on the intention to use micropayments.

**H<sub>1</sub>:** The attitude towards using micropayments will have a positive effect on the intention to use micropayments.

The relationship between attitude towards using micropayments (ATT) and the intention to use micropayments (INT) showed a significant relationship with a t-value of 61.021. Therefore, the null hypothesis can be rejected and H<sub>1</sub> can be accepted at the 1% significance level. The influence on this relationship is strong due to its path coefficient of 0.954. It can be further concluded that attitude towards using micropayments has a strong influence on consumer intention to use micropayments for online news.

#### **Hypothesis 2**

**H<sub>0</sub>:** Perceived usefulness will not have a positive effect on the attitude towards micropayments.

**H<sub>1</sub>:** Perceived usefulness will have a positive effect on the attitude towards micropayments.

The relationship between perceived usefulness (PUN) and the attitude towards using micropayments (ATT) have t-values of 16.897. Therefore, there is a significant relationship between the two constructs at the 1% significance level and the null hypotheses can be rejected (i.e. H<sub>1</sub> accepted). The relationship between perceived usefulness and attitude of using micropayments showed a strong influence, based on the path coefficient of 0.879.

#### **Hypothesis 3**

**H<sub>0</sub>:** Perceived ease of use will not have a positive effect on attitudes towards micropayments.

**H<sub>1</sub>:** Perceived ease of use will have a positive effect on attitudes towards micropayments.

There is a positive effect between perceived ease of use (PEU) and attitude towards using micropayments (ATT) as indicated by the PLS output with a t-value of 3.804 (1% significance level). Therefore, the null hypothesis can be rejected and H<sub>1</sub> can be accepted. Based on the path coefficient of 0.058 between the two constructs, it can be concluded that there is a positive relationship between perceived ease of use of micropayments and consumers' attitude towards using them.

**Hypothesis 4**

**H<sub>0</sub>:** Mobility will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Mobility will have a positive effect on the perceived usefulness of micropayments.

The relationship between mobility (MOB) and perceived usefulness (PUN) of micropayments has a t-value of 2.053. Therefore, the null hypothesis can be rejected and H<sub>1</sub> can be accepted at the 5% level. It can be concluded that mobility has a positive effect on the perceived usefulness of micropayments.

**Hypothesis 5**

**H<sub>0</sub>:** Mobility will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Mobility will have a positive effect on the perceived ease of use of micropayments.

The PLS output indicates that there is a strong relationship between mobility (MOB) and the perceived ease of use of micropayments (PEU) due to the t-value of 3.220. Therefore, the null hypothesis can be rejected and H<sub>1</sub> can be accepted at the 1% level. It can be concluded that mobility has a strong positive effect on the perceived ease of use of micropayments.

**Hypothesis 6**

**H<sub>0</sub>:** There is no relationship between compatibility and the consumer's perceived usefulness of micropayments.

**H<sub>1</sub>:** There is a relationship between compatibility and the consumer's perceived usefulness of micropayments.

The relationship between compatibility (COM) and the consumer's perceived usefulness (PEU) of micropayments showed a t-value of 5.421. Therefore, the null hypothesis can be rejected and H<sub>1</sub> can be accepted at the 1% level. It can be concluded that compatibility has a strong influence on consumers' perceived usefulness of micropayments.

**Hypothesis 7**

**H<sub>0</sub>:** There is no relationship between compatibility and the consumer's perceived ease of use of micropayments.

**H<sub>1</sub>:** There is a relationship between compatibility and the consumer's perceived ease of use of micropayments.

The relationship between compatibility (COM) and the consumer's perceived ease of use (PEU) towards micropayments has a t-value of 1.625 at the 5% level. Therefore, the null hypothesis fails to be rejected and H<sub>1</sub> fails to be accepted. It can be concluded that there is not sufficient evidence that compatibility has a positive effect on the consumer's perceived ease of use of micropayments.

### **Hypothesis 8**

**H<sub>0</sub>:** Convenience will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Convenience will have a positive effect on the perceived usefulness of micropayments.

The PLS output indicates a significant effect between convenience (CON) and perceived usefulness of micropayments (PUN), based on a t-value of 3.282. Therefore, the null hypothesis can be rejected and H<sub>1</sub> can be accepted at the 1% level. It can be concluded that there is a strong relationship between convenience and the consumer's perceived usefulness of micropayments.

### **Hypothesis 9**

**H<sub>0</sub>:** Convenience will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Convenience will have a positive effect on the perceived ease of use of micropayments.

The relationship between convenience (CON) and perceived ease of use of micropayments (PEU) showed a t-value of 3.129 at the 1% significance level. Therefore, the null hypothesis can be rejected (i.e. H<sub>1</sub> accepted) at the 1% level and it can be concluded that there is a strong relationship between convenience and consumers' perceived ease of use of micropayments.

### **Hypothesis 10**

**H<sub>0</sub>:** There is no relationship between innovativeness and the perceived ease of use of micropayments.

**H<sub>1</sub>:** There is a relationship between innovativeness and the perceived ease of use of micropayments.

The output from the PLS calculations indicated a relationship between innovativeness (INN) and the perceived ease of use of micropayments (PUN) at a t-value of 0.618. Therefore, the null hypothesis is not rejected and H<sub>1</sub> fails to be accepted at the 5% level. It can be concluded that there is not sufficient evidence to refute the claim that innovation has a positive effect on consumers' perceived ease of use of micropayments.

### **Hypothesis 11**

**H<sub>0</sub>:** Knowledge of micropayments will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Knowledge of micropayments will have a positive effect on the perceived ease of use of micropayments.

The relationship between knowledge of micropayments (KNO) and perceived ease of use of micropayments (PEU) has indicated a t-value of 0.039. Therefore, the null hypothesis fails to be rejected and H<sub>1</sub> fails to be accepted at the 5% level. It can be concluded that

there is not sufficient evidence to refute the claim that knowledge of micropayments has a positive effect on consumers' perceived ease of use of micropayments.

#### **Hypothesis 12**

**H<sub>0</sub>:** Later payment will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Later payment will have a positive effect on the perceived usefulness of micropayments.

The relationship between later payment (LPM) and perceived usefulness of micropayments (PUN) has indicated a t-value of 1.941 at the 5% level. Therefore, the null hypothesis can be rejected (i.e. H<sub>1</sub> accepted) at the 5% significance level. It can be concluded that later payment has a positive effect on consumers' perceived ease of use of micropayments.

#### **Hypothesis 13**

**H<sub>0</sub>:** Later payment will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Later payment will have a positive effect on the perceived ease of use of micropayments.

The PLS output indicated a t-value of 0.748 between the relationship of later payment (LPM) and perceived ease of use of micropayments (PEU) at the 5% level. Therefore, the null hypothesis fails to be rejected (H<sub>1</sub> fails to be accepted). It can be concluded that there is not sufficient evidence to refute the claim that later payment of micropayments has a positive effect on consumers' ease of use of micropayments.

#### **Hypothesis 14**

**H<sub>0</sub>:** Single payment platform will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Single payment platform will have a positive effect on the perceived usefulness of micropayments.

The relationship between single payment platform (SPP) and perceived usefulness of micropayments (PUN) indicated a t-value of 1.940. Therefore, the null hypothesis can be rejected and H<sub>1</sub> can be accepted at the 5% significance level. It can be concluded that there is a positive effect of single payment platform on perceived usefulness.

#### **Hypothesis 15**

**H<sub>0</sub>:** Single payment platform will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Single payment platform will have a positive effect on the perceived ease of use of micropayments.

The relationship between single payment platform (SPP) and perceived ease of use of micropayments (PEU) showed a t-value of 0.913. Therefore, the null hypothesis fails to be rejected, as  $H_1$  fails to be accepted. It can be concluded that there is not sufficient evidence to refute the claim that a single payment platform of micropayments has a positive effect on consumers' ease of use of micropayments.

#### **Hypothesis 16**

**H<sub>0</sub>:** Perceived trust will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Perceived trust will have a positive effect on the perceived usefulness of micropayments.

The relationship between perceived trust (PTR) and consumers' perceived usefulness of micropayments (PUN) had a t-value of 0.373 (5% level). Therefore, the null hypothesis fails to be rejected, as  $H_1$  fails to be accepted. It can be concluded that there is not sufficient evidence to refute the claim that perceived trust towards micropayments has a positive effect on consumers' perceived usefulness of them.

#### **Hypothesis 17**

**H<sub>0</sub>:** Perceived trust will not have a positive effect on the perceived ease of use of micropayments.

**H<sub>1</sub>:** Perceived trust will have a positive effect on the perceived ease of use of micropayments.

The relationship between perceived trust (PTR) and consumers' perceived ease of use of micropayments (PEU) indicated a t-value of 0.274 (5 percent). Therefore, the null hypothesis is not rejected and  $H_1$  is not accepted. Hence, there is not sufficient evidence to refute the claim that perceived trust towards micropayments has a positive effect on consumers' perceived ease of use towards micro-transactions.

#### **Hypothesis 18**

**H<sub>0</sub>:** Perceived content relevance will not have a positive effect on the perceived usefulness of micropayments.

**H<sub>1</sub>:** Perceived content relevance will have a positive effect on the perceived usefulness of micropayments.

The PLS outcomes between perceived content relevance (PCR) and consumers' perceived usefulness of micropayments (PUN) indicated a t-value of 1.234 at the 5% significance level. Therefore, the null hypothesis is not rejected and  $H_1$  is not be accepted. It can be concluded there is not sufficient evidence to refute the claim that perceived content relevance towards micropayments has a positive effect on consumers' perceived usefulness of micropayments for online news.

### **Hypothesis 19**

- H<sub>0</sub>:** Perceived content relevance will not have a positive effect on the perceived ease of use of micropayments.
- H<sub>1</sub>:** Perceived content relevance will have a positive effect on the perceived ease of use of micropayments.

The relationship between perceived content relevance (PCR) and consumers' perceived ease of use of micropayments (PEU) showed a t-value of 0.619 at the 5% level. Therefore, the null hypothesis is not rejected and H<sub>1</sub> is not accepted. It can be concluded there is not sufficient evidence to refute the claim that perceived content relevance towards micropayments has a positive effect on consumers' perceived ease of use of micropayments.

### **5.3.9 Summary of the findings**

The main study interviews in stage one brought about additional external variables that were added to the initial conceptual model, with the objective of empirically examining the relationships between all the comprehensive study model constructs in the main study survey in stage two. Early on in stage one, the interview material was quantified to indicate frequencies of individual and group data: eight variables were identified out of nine semi-structured interviews, with four constructs already known from the literature synthesis, along with four newly-detected variables, with two system characteristics and two individual differences in each group. One factor (compatibility) was not confirmed in the interviews. After the qualitative investigation process using coding analysis, four newly-identified factors were carved out to add to the conceptual research model. Experts perceived that later payment, single payment platform, perceived trust, and perceived content relevance would influence perceived usefulness, perceived ease of use, attitude towards the use of micropayments and the intention to use micropayments in online news in Switzerland. Therefore, a set of eight newly-detected relationships was developed, adding to the Alpha 1 research model and resulting in the final set of 19 joint relations between all constructs, which was the subject assessed in stage two of the main study.

The above findings from the main study are closely aligned to those produced in the pilot interview study in section 5.1.5. Across both studies, three common external variables were detected, i.e. single payment platform, perceived trust and perceived content relevance. However, the researcher used different wording in the pilot study for the same construct, namely universal payment platform for single payment platform, fair communication instead of perceived trust and unique value for perceived content relevance.

Early on in the empirical section of the main study in stage two, the sample of the respondents' profile of 262 valid responses from the web-based survey was conducted using the demographic data of gender, age and income. The sample held significantly more men (76%) than women (24%) and distorted slightly to older adults aged 51 and older (55%). In terms of income, the survey sample group held significantly higher incomes: 62% of them earned upwards of CHF 8,000 per month.

After Structural Equation Modelling was performed on the quantitative data, the relationships between each construct could be examined. It was found that attitude towards the use of micropayments has a strong positive relationship to the intention to use micropayments for online news in Switzerland. With the help of path coefficient analysis, it was concluded this was the strongest relationship within the structural model.

Perceived usefulness and perceived ease of use were found to hold significant positive relationships towards the attitude to use micro-transactions, while perceived usefulness exhibited a strong positive influence on the moderating variable of attitude and perceived ease of use showed a moderate positive influence towards attitude of using micropayments. Thus, increased levels of perceived usefulness are expected to have a corresponding effect on the consumers' perception of digital news, resulting in an augmented attitude in using mini transactions. Similarly, an enhancement of the perception of ease of use will lead to an increase in user awareness of using micropayments for digital news. However, perceived usefulness reflected a stronger effect on consumer adoption of micro-transactions than perceived ease of use. The results are aligned with previous findings in studies on mobile payments and e-payments (Kim et al., 2010; Gao et al., 2012; Ming-Yen Teoh et al., 2013). Reverse effects were not evaluated in this study, since one-tailed t-tests were applied.

The effect of all five system characteristics comprising mobility, compatibility, convenience, later payment and single payment platform on perceived usefulness was found to be positive and significant. Three constructs — mobility, compatibility and convenience — showed evidence of strong relationships with the antecedent variable. The PLS output also indicated a positive and significant effect from two system characteristics, namely convenience and mobility on perceived ease of use, both of which were found to show strong significant relationships with consumer perception towards ease of use of micropayments. Hence, concrete mobile payment-related factors play an important role in readers' assessment of using micropayments, just as the newly-

identified factors in the demand for later payment and a single payments platform are crucial for buying news content at small values. All four individual differences — innovativeness, micropayment knowledge, perceived trust and perceived content relevance — failed to show evidence of a positive effect on both antecedent variables. While experts found these constructs are important to consumer consideration of paying for digital news, the survey participants did not support the resulting hypothesised relationships.

The findings from the external variables are in line with other findings from relating mobile payments studies and micropayments literature on mobility (Schierz et al., 2010), compatibility (Tornatzky and Klein, 1982; Mallat and Dahlberg, 2005; Kim et al., 2010) and convenience (Srinivasan et al., 2002; Chou et al., 2004; Dewan and Chen 2005; Roy et al., 2006; Chen, 2006; Mallat, 2007; Lee, 2009).

Surprisingly, consumers did not indicate a positive effect from knowledge of micropayments on the perception factors towards attitude and using micropayments. This relationship was conceptualised from the experts' views that if a reader knows they can pay for a single piece of news content, they would actually take advantage of it. This can be for a number of reasons. First, many users experience psychological barriers because digital purchases is already challenging and by making frequent micro-purchases, this hurdle may be intensified. Second, many users tend to use cash for small purchases below CHF 25, so these users may perceive less of an incentive to make low-value news payments online. However, since there is no alternative to accepting micropayments for digital news, publishers must find ways to make this business model work.

Equally unexpected is the fact that innovativeness, which was also found in the literature review to influence the antecedent variables, was not confirmed to have a positive effect on perceived ease of use in the empirical analysis. Hence, it does not seem to be a crucial factor for consumers using innovative payment methods for online news. This finding can be attributed to various reasons. First, micropayments have proven successful for the music industry and for app purchases, whereby consumers view digital content, like news or video, as non-innovative, particularly considering Switzerland's number-one ranking in the global innovation index 2017 (Dutta et al., 2017). Second, the finding refers to a convergent economy, as Switzerland leads the innovation ranking for the seventh consecutive year. In a high-income economy like Switzerland, the population has access



to technological opportunities more than other economies, making users more inclined towards emerging technology services.

The relationships between the personal features of perceived trust and perceived content relevance with the antecedent variables were respectively not found to have an effect in the Beta model. Thus, even if a consumer finds a brand trustworthy, they may still not take the usefulness and ease of use of micropayments into consideration. The reason may be that trust in financial transactions involves a degree of risk towards them. Buying digital news leads to high expectations in consumers' minds when it comes to satisfying their news consumption demands, therefore trust is essential to readers' behaviour on news platforms. However, there is no guarantee that the publisher will refrain from unethical practices like unfair pricing, using personal data without prior permission or operating unsecure payment systems (Zhou, 2013). With a certain level of risk involved in any online payment, it can therefore be concluded that risk avoidance exceeds the trustworthiness of micropayment usage.

The empirical analysis did not support a positive effect of perceived content relevance on the antecedent variables, either. The findings do not support consumer perceptions of unique, relevant characteristics of adoption factors when applied to the use of micropayments. Hence, the importance of consumers' perceived content relevance in driving trends relating to their intention to make small payments for digital news was not confirmed.

The compilation of the findings described above, empirically tested in the Beta 1 and Beta 2 model with its respective relationships, are displayed in Table 5.15.

**Table 5.15: Results of structural equations model tests**

Hypotheses	t-Value	Hypothesis status
<i>Moderating Variable</i>		
H1: Attitude towards use of micropayments → Intention to use micropayments	61.021*	+
<i>Antecedent Variables</i>		
H2: Perceived usefulness → Attitude towards use of micropayments	16.897*	+
H3: Perceived ease of use → Attitude towards use of micropayments	3.804*	+
<i>System characteristics</i>		
H4: Mobility → Perceived usefulness	2.053**	+
H5: Mobility → Perceived ease of use	3.220*	+
H6: Compatibility → Perceived usefulness	5.421*	+
H7: Compatibility → Perceived ease of use	1.625	-
H8: Convenience → Perceived usefulness	3.282*	+
H9: Convenience → Perceived ease of use	3.129*	+
H12: Later payment → Perceived usefulness	1.941**	+
H13: Later payment → Perceived ease of use	0.748	-
H14: Single payment platform → Perceived usefulness	1.940**	+
H15: Single payment platform → Perceived ease of use	0.913	-
<i>Individual differences</i>		
H10: Innovativeness → Perceived ease of use	0.618	-
H11: Micropayment knowledge → Perceived ease of use	0.039	-
H16: Perceived trust → Perceived usefulness	0.373	-
H17: Perceived trust → Perceived ease of use	0.274	-
H18: Perceived content relevance → Perceived usefulness	1.234	-
H19: Perceived content relevance → Perceived ease of use	0.619	-

Note. N = 262. \*significant at 1%; \*\*significant at 5%.

Source: Main study data.

### 5.3.10 Conclusions

At the beginning of this chapter, the results from the pilot study interviews were presented, followed by the presentation of the outcomes of the main study interviews. The findings from both studies were closely aligned with three out of four newly-identified external variables from the pilot study, which matched the findings from the main study. A total of four new constructs found in the main study interview in stage two were added to the Alpha research model. The empirical second stage of the main study served to assess the 19 relationships between each construct in the comprehensive Beta 2 model, 10 of which were found to be statistically significant (53%). The effects of interaction between the antecedents, the moderating variable and the intention to use micropayments were confirmed. Chapter Six goes on to validate the survey outcomes of

the empirical part of the thesis, as generated amongst NZZ readers. The quantitative data from the main study stage two is presented to a board of academic and industry consultants to gain external validity. Chapter Seven presents the conclusions drawn and makes recommendations based on the aggregated research about micropayments for online news. The research study concludes with the offer of future research opportunities.

## CHAPTER 6: VALIDATION STUDY

In the previous chapter of the thesis, the pilot study was recorded, followed by the detailed documentation of the main study. Accordingly, this chapter displays the outcomes of the validation study, which is the third and final stage of the research study of this DBA thesis. The validation study aimed to validate the research model and survey results among a group of industry specialists and academic professionals in the fields of micropayments, consumer behaviour and digital marketing. The panel helped to extend the research findings, which are presented in the following sections.

### 6.1 Methodological Outline

As outlined in section 4.4.2, it was deemed necessary to conduct a validation study to ensure face validity to the research results. Face validity confirms that the survey study proves to accurately and logically mirror what it intended to capture by presenting it to a board of experts in the research field (Saunders, 2011). This was established by carrying out face-to-face and telephone interviews — with the exception of one solicited feedback in writing — with a panel of eight participants working, lecturing or researching in the field of micropayments, consumer behaviour and media economics, all with profound knowledge in the Swiss news market. Accordingly, the quantitative survey findings were contrasted with the qualitative comments from the panel individuals. The panel included a cross section of two experts from the main study interviews. The participants of the validity study are presented in Table 6.1. All information was clearly obtained prior to the interviews, including the permission to use the experts' names, titles, organisation and quotes as citations.

**Table 6.1: Participants in validity study**

Name	Title	Organisation
Mr Bogdan Sutter	Director Advisory, Strategy & Digital Change	PwC Switzerland
Mr Cosmin Ene	Managing Director	LaterPay AG
Mr Richard Reisman	Managing Director & Micropayments Specialist	FairPayZone.com
Mr Mirko Marxen	Director Customer Marketing	NZZ AG
Ms Pamela Pozzi	Director Market Research	NZZ AG
Dr Philipp Bachmann	Lecturer Media Economics	University of Zurich
Dr Michael Klaas	Lecturer Digital Marketing	University ZHAW
Mr Martin Oswald	Lecturer Social Media Strategy & Communications	University ZHAW

The sample of the validation study was purposively selected grounded on the participants' background and experience in the research topic to ensure that they can make a top-quality contribution to the validation study. Individuals based in Zurich and Bern in Switzerland were approached for logistical reasons. Two interviews were held via audio calls in St. Gallen (Switzerland) and New York City (US) and one participant provided answers in written format due to business circumstances. The validation study was conducted between 8<sup>th</sup> and 18<sup>th</sup> March 2018. Prior to each feedback session, the researcher distributed a summary of the results of the main study in Chapter Five electronically to the participants, together with a brief of the methodology to ensure that participants were clear on the study's context. During the individual interviews, the following questions were asked to the panel, as listed in Table 6.2.

**Table 6.2: Validity study questions**

No.	Questions
1	What is your opinion on micropayments for online news in the Swiss market?
2	What is your view of the results of the study?
3	Please explain your reasoning for your answer in question 2.
4	Do you believe that the findings of the study contribute to the research knowledge in the field of micropayments for online news? <input type="checkbox"/> yes <input type="checkbox"/> no
5	What are the most important aspects of the findings that contribute to the research knowledge in the field of micropayments for online news?
6	Do you believe that the outcomes of the study have managerial impact for the application of micropayments of online news? <input type="checkbox"/> yes <input type="checkbox"/> no
7	What are the most important aspects of the findings that contribute to the implementation of micropayments for online news?
8	What are your suggestions for wider acceptance of micropayments for online news amongst consumers?
9	In your opinion, are there other factors — other than mentioned in the study — influencing consumers' usage of micropayments for online news in Switzerland?
10	In your view, are there other aspects — other than considered in the study — shaping the consumer behaviour of paying for online news in the Swiss publishing market?

The collective data were appraised and are synthesised in the subsequent section.

## 6.2 Results from validity study questions

### 6.2.1 Results from question one

The introductory question explored the participating professionals' general opinion on the topic of online micropayments in the Swiss news market.

Predominantly ambivalent views were recorded from almost all participants: on the one hand, the panel considered micropayments as high potential, lurking, conducive and imminent business models for newspapers to enhance revenue from digital content; while on the other hand, the panel indicated impeding issues relating to the application and implementation of online micropayment services. One exemplary view was expressed by Mirko Marxen, who holds specialist business knowledge in consumer behaviour for readers and payment services among online news. Mr Marxen stated:

*“I have a critical view on micropayments. From a company’s view, it’s a challenge to decide whether to offer micropayments over subscriptions in terms of technological challenges, communicational risks and revenue streams. On the other side, it is an attractive solution to sufficiently explore market potentials. It depends on the case.”*

From a scholarly perspective, Dr Michael Klaas from the University ZHAW added:

*“I understand why newspapers need micropayments and they should get paid for that, but it’s always been a black box with inconvenient mechanisms around.”*

Mr Martin Oswald, another lecturer at the University ZHAW, explored a tangent concerning another contentious issue. He stated that newspapers need to consider micropayments in the search for novel income streams — other than flat subscriptions — however, the attitude and willingness to pay for digital news in the Swiss market and the low amount of prices of micropayments to gain sufficient earnings are questionable topics.

Dr Philipp Bachman, senior research associate at the University of Zurich, also raised a bi-dimensional course by claiming that micropayments are highly relevant to the Swiss news market, albeit only if their articles are not available free of charge elsewhere. He provided an example: he was recently requested to pay for a single article on Spiegel.de, but at the same time the identical article was free to read on Watson.ch. He urged that one of the most crucial aspects for online publishers is to deal with and overcome the technical hurdles for micropayments’ use.

Ms Pamela Pozzi, a market research specialist at NZZ AG, asserted micropayments as a very valuable business model for the news industry, but considered them relevant only for a specific audience, namely for younger readers.

By contrast, a clearly positive sentiment was raised by Mr Richard Reisman, who has more than 25 years of experience in monetising digital offerings. He noted:

*“There is clearly good potential, it all depends on how it’s implemented. There were numerous failures on micropayments in the past and the trick is to understand what the problems were and to overcome them. It does depend on the value proposition on what the customer wants and framing on why users want to pay for news.”*

A similar encouraging view was provided by Mr Cosmin Ene, micropayment specialist at LaterPay AG:

*“I think that micropayments are an essential component of a healthy internet — regardless of whether for the wealthy Swiss market or any other market. Micropayments are user centric model and respect many users’ time and consumption behaviour.”*

Apart from Mr Reisman and Mr Ene above, the joint views from the panel echoed a controversial perspective, with technical, communicative and cultural challenges that need to be overcome first, before gaining solid revenues.

### **6.2.2 Results from question two and three**

The second question investigated the panel’s view on the results of the study. Question three sought a justification and extension of question two. Despite a clear differentiation between question two and three, the study participants jointly answered these questions due to correspondent issues. For the sake of conjunction and comprehensive understanding for the reader, the questions were examined unitedly.

First of all, all participants stated they understood the results gained in the main study, particularly those from the web survey among NZZ readers. The panel concordantly validated that the general findings are plausible and easy to follow. Dr Michael Klaas commented:

*“The results prove what people would have considered to be right.”*

Remarkably, all interviewees doubtlessly probed that attitude was the predominant factor influencing the intention to use micropayments. Hence, little discussion was produced on the characteristics of attribute.

The purport from the entire panel found that perceived usefulness has a strong effect on the attitude towards micropayments use, which matched the outcomes of the consumer study. Martin Oswald, Mirko Marxen and Richard Reisman indicated that readers will not adapt to online micropayments if they do not perceive them as valuable, advantageous or beneficial: terms synonymously used for ‘useful’. Mr Marxen also highlighted that the wish to pay for news is strongly influenced by the perceived usefulness of the content. Dr

Klaas verified that perceived usefulness of micropayments indeed changes the attitude and intention towards their use.

The participants were not surprised that perceived ease of use had a strong positive relationship on the attitude towards micropayments use. Dr Bachmann brought the issue of making a decision on purchasing digital news, which is a process that strongly depends on the perceived ease to use. He further asserted that the findings on perceived ease of use and perceived usefulness are not astonishing, because TAM is a well-established and widely-accepted model for technology services towards the intention to use. However, Dr Klaas and Dr Bachmann were intrigued by the fact that SEM results of perceived ease of use and perceived usefulness towards the attitude to use micropayments were far apart from each other. Dr Bachmann stated:

*“I am surprised perceived ease of use has a small effect on the attitude”.*

With respect to the external factors, the panel uniformly agreed with the findings of mobility, compatibility and convenience.

The panel response to the outcomes of later payment was double-edged. Ms Pozzi confirmed the consumers’ view on perceived usefulness since consumers can discover the content first before taking the risk of paying for it. Mr Ene was unsurprised to see later payment as a proven system characteristic. Dr Klaas shared this view, claiming that users would only understand the benefits after the services have been used. However, he doubted that users would actually pay for digital content after they have consumed it. Opposing the above thoughts, Mr Marxen was surprised by the proven link of later payment towards perceived usefulness since he claimed that it is widespread in Switzerland to pay upfront, including digital news. The panel was not intrigued that later payment has no direct effect on the ease of use.

The panel unanimously proved the finding on innovativeness, although the reasoning behind this finding was controversial. Ms Pamela Pozzi explained that a younger audience does not perceive micropayment services as innovative, while she considered an older audience as not needing innovative technologies. Dr Philipp Bachmann asserted micropayment services not to be an innovative service to pay for news; instead, he rated an ‘easy to use micropayment solution’ as innovative. Mr Mirko Marxen added:

*“Ease to use and innovativeness are contrary terms with respect to micropayments. The perceived degree of innovation depends on more complex novel services.”*



Ms Pozzi commented that “*the lack of influence of knowledge of micropayments towards perceived usefulness*” is interesting. This sentiment was reiterated by Dr Bachmann, saying that:

*“Maybe the NZZ sample has a good knowledge about micropayments already and the variance is quite low or maybe there is a selection bias.”*

A single payment platform was confirmed as useful by consumers, and the panel agreed with these outcomes. Ms Pozzi stated that a new single payment platform must not necessarily be perceived as easy, which is aligned with the findings of the study. However, Martin Oswald, Mirko Marxen and Pamela Pozzi noted that this link has a rather abstract character since such a platform for micropayments does not yet exist in Switzerland. Hence, NZZ readers judged on a theoretical construct, which — once in place — should be subject to further enquiry.

Seven out of eight respondents were surprised that perceived trust to perceived usefulness did not play a role in the cognitive process among consumers when considering micropayments. Dr Bachman provided an exemplary view:

*“There is a small effect of perceived trust on perceived usefulness and on perceived ease of use. I would have expected stronger effects, because trust and payments are highly related. A consumer wouldn’t buy an article if it’s not relevant.”*

Mr Bogdan Sutter, a news industry observer at PricewaterhouseCoopers in Bern, was not intrigued by the result of the trust construct. He stated that digital users generally accept digital payment services, especially Swiss users in Switzerland.

The general view of perceived content relevance to perceived ease of use and perceived usefulness was similarly surprising to the panel compared with that of the trust construct. Richard Reisman classified perceived content relevance as an indirect factor towards actual micropayments use. He further asserted that the primary question of online readers is whether they want the news or not, and secondarily whether they want to pay for it and how much. Dr Michael Klaas pointed the trust factor towards the future use of micropayments:

*“If perceived content relevance is high, other factors are high. The user strives for quality news content, which influences the attitude. Hence, perceived content relevance has an effect on other factors instead.”*

However, Dr Klaas did not provide suggestions on the aforementioned alternative factors.

### **6.2.3 Results from question four**

The fourth question asked the participants whether they agree with the results generated in the study. Five professionals consistently affirmed this question and hence expressed a belief that the study findings contribute to the research knowledge in the field of micropayments for online news. The remaining three respondents claimed that they are not sufficiently familiar with the scholarly literature to make a qualified judgement.

### **6.2.4 Results from question five**

In terms of the most important aspects of the research outcomes, the respondents provided valuable input concerning four outstanding factors.

First, the results on the single payment platform were perceived as particularly notable, as indicated by Ms Pamela Pozzi and Mr Richard Reisman. Both participants acknowledged the significant link between this construct and the perceived usefulness, which was proven by the NZZ readers. From a market research view, Ms Pozzi suggested conducting further research on this construct to better understand the consumer needs towards it. From a practitioner view, Mr Reisman portended that existing news aggregator platforms such as Blendle.com must work closely together with newspapers to ensure technological brilliance to consumers.

Second, the fact that later payment on perceived usefulness had been located among the most important variables was highlighted by Bogdan Sutter and Cosmin Ene. From a news industry observing perspective, Mr Sutter was surprised by the result given the Swiss credit card culture amongst internet users and the related high payment security. From a micropayment view, Mr Ene found the outcomes to be notable since the results empirically confirm what he expected users need to accept micropayments for news.

Third, from a newspaper standpoint, Mr Mirko Marxen stressed perceived trust and perceived content relevance — both constructs did not show a significant effect on perceived usefulness and perceived ease of use — as highly important factors within a publishing house. Hence, he indicated strong differences between an internal view (expert interviews, main study stage one) and external view (consumer survey, main study stage two), which requires further investigation concerning why consumers did not consider perceived trust and perceived content as relevant factors on the intention to use micropayments.

Fourth, from a research perspective in media economics, Dr Philipp Bachmann indicated the noteworthy and well-established TAM model underlying this DBA thesis. He declared that perceived usefulness and perceived ease of use are solid, valid and predictive determinants towards the intention to use in consumer behaviour scholarly literature. Hence, Dr Bachmann highlighted the importance of this research towards actual media usage and concrete factors towards the use of micropayments.

#### **6.2.5 Results from question six**

Seven panel participants strongly supported question six that the study results have a highly valuable impact for the managerial application of micropayments of online news. However, Mr Ene had a different standpoint and explained it as follows:

*“Publishers hang on to subscriptions believing that this will save them, until subscriptions plateau start decreasing in numbers and until they have no other choice than to give in to other methods. Rational thinking and behaviour is not going over the fear that is predominant in the industry. An industry in a crisis behaves irrationally and the publishing industry is in a crisis. Micropayment sounds counterintuitive to them, so they’ll fight it.”*

#### **6.2.6 Results from question seven**

The most important aspects of the findings that contribute to the actual implementation of micropayments for online news were analysed and summarised as follows.

Several panel members hinted at the novelty character of this DBA thesis in the context of micropayments in Switzerland and highlighted the subsequent practical usefulness to newspapers and online news portals. Ms Pozzi pointed to the fundamental research nature of this research study on the determinants of actual usage for paying for digital news. She asserted that newspapers could use the results as a starting point when considering actual micropayment implementation, prioritise features that influence actual consumer use of micropayments and drop irrelevant factors. Dr Klaas reiterated this sentiment:

*“Publishers face a very solid research paper with good statistics and clearly written hypotheses. This research study proved that certain factors are true, even though they are rather scientific. With this thesis, publishers have proof that certain relations exist.”*

Dr Klass further accented that this study is an important and initial step for newspapers to consider the application and implementation of micropayments:

*“You can take certain aspects out of these results and you start implementing very fast with small [micropayment] solutions where you see what the impact is on your business and your consumers.”*

Mr Marxen confirmed this sentiment, especially with respect to early stages in the set-up of newspapers' digital strategy. He predicted the managerial impact of the study results to be upmost a) when managers approach a general consideration of micropayments and b) in the conceptional stage for actual implementation.

Moreover, Dr Bachmann additionally brought out that some external factors were found more important than others and hence publishers must concentrate on the validated factors as part of their paid content strategy. He further stressed the importance of mobility, compatibility and convenience. Mr Ene revealed that convenience was among the four dominant variables, which will make some publishers think.

### **6.2.7 Results from question eight**

Question eight asked the panel to make suggestions for a wider acceptance of online micropayments in the Swiss publishing market.

Responses focused on the necessity for newspapers to make revenue out of digital content for non-subscribers to survive in the digital age, which should be achieved with the help of micropayments. Given the 'free online content culture' formerly created in the Swiss news industry and income streams no longer being reliant on advertising, newspapers must not waste further earnings from digital content. The panel confirmed that consumers must pay for Swiss quality journalism for publishers to survive. This includes the willingness of readers (such without paid subscriptions) to pay for digital news, which can be incentivised through small payments. Dr Bachmann concluded that micropayments would help publishers to adapt to changing behaviour and structural changes in the industry:

*“One important solution could be the implementation of better micropayment technologies to measure income streams in a transparent way, but they must fix the technical issues first. Then, micropayments are one valid solution to tackle the crisis in the Swiss news market.”*

Mr Martin Oswald also pointed to the transparency issue of business models, where micropayments and subscriptions must be technologically aligned with each other without disadvantaging the consumers. Mr Richard Reisman provided an example in this respect: he urged that Blendle must not charge users for an article of a newspaper that the user is subscribed to and vice versa, and this has not yet been set up.

Both Mr Oswald and Mr Reisman asserted that mobile device producers must also tackle technical hurdles for consumers to be able to easily proceed through order and payment

processes. Mr Oswald noted that these device barriers damage income attempts from publishers, not only in Switzerland. He provided an example:

*“I have to insert my credit card details every time I want to make an online purchase.”*

From a consumer perspective, Ms Pamela Pozzi argued on the acceptance as follows:

*“Micropayments will help publishers to get paid for qualitative news, because the [price] hurdle is lower.”*

Furthermore, Dr Michael Klass demanded that newspapers should be more restrictive with content to achieve wider acceptance in terms of online micropayments. He indicated that consumers will not pay for articles that can be accessed through Google, Facebook or through newsletters for free. Mr Klaas also directed attention to the discussion of providing unique content to differentiate from competitors and create exclusivity for consumers.

Moreover, a strong panel echo was to simply try out micropayments to gain experience on this profit model, to understand the audience and the desired pricing structures and therefore achieve broader acceptance.

### **6.2.8 Results from question nine**

Question nine sought to discover other external variables — not included in the study — that influence consumers’ usage of micropayments for digital news in Switzerland.

Dr Klaas suggested a link between ‘noise factors’ such as the economic situation and political conditions and the usage of micropayments:

*“Specific factors can have an influence, e.g. if the economy is completely down. Noise factors can have an influence on how companies deal with them; they will not change the results, but give a more realistic outcome.”*

Thus, in countries with an instable economy, differences may prove enlightening.

The influence of media brand and perceived quality of the news product were indicated by Dr Bachmann as noteworthy ‘soft factors’ for further investigation.

Richard Reisman noted that pricing risk might have a bearing on how consumers perceive the intention to use of micropayments. He explained that people should be charged only for what they consume, similar to a phone bill with a pay-per-minute price. Hence,

micropayments should involve a pay-per-story model and must not exceed subscription prices to eliminate consumers' risk of overpaying.

### **6.2.9 Results from question ten**

Question ten aimed to detect other facets — not covered in the study — that shape consumer behaviour of paying for online news in the Swiss market.

Martin Oswald pointed to the different presentation between digital and print content, each with their appropriate merit. Here, Mr Oswald suggested an optimised appearance of online news integrating storytelling and multimedia facets, especially on mobile devices that catch readers' attention and hence, influence their news consumption and willingness to pay for.

Dr Michael Klaas pointed to the communication of benefits that consumers profit from by paying for journalistic content, suggesting that consumers are likely to accept payment if the benefits of news consumption are communicated more advantageously and creatively. Connected to this, Bogdan Sutter insinuated that newspapers should focus on exclusive news content, which will influence readers' attitude towards micropayments. He exemplarily referred to local content that would not be available for free elsewhere and must be communicated well to the Swiss population to create demand for it. In this combination, Mr Ene added:

*“Once new, online only publications with good integrations of micropayments will come up, it will make people think.”*

Furthermore, Pamela Pozzi and Bogdan Sutter pointed to the cultural situation in the news industry in Switzerland whereby online content is still available for free, which includes qualitative journalistic content. They stated that as long as articles can be read for free, the attitude towards paying for news content would not radically change. Both participants hinted at stricter paywalls with access to valuable content for paying readers only. Contrary to this aspect, Mr Sutter referred to high salaries in Switzerland, which allow people to easily pay for what they want to consume. Here, he signified at the Swiss culture, which generally supports and appreciates high-quality products and services. Bogdan Sutter indoctrinated that once consumers clearly see the advantages of exclusive content, the influence towards paying for news will increase.

### **6.2.10 Summary of panel questions**

The main issues commented in this validation study are summarised in this section. Aside from two strongly encouraging views, there were contending views on online micropayments for the Swiss news industry. Consensus was achieved on the overall importance of this thesis and the identified determinants. The panel validated the importance of attitude, perceived usefulness and perceived ease of use in the context of this study. On the subject of system characteristics, agreement was achieved concerning the results of mobility, compatibility and convenience. Contrary views existed on later payment and a single payment platform, with some participants confirming the results and some participants not understanding the findings. With respect to individual differences, innovativeness and knowledge of micropayments, the results astonished the study participants. The outcomes of perceived trust and perceived content relevance surprised the participants, as they were not found relevant among NZZ readers.

Five panel members confirmed the contribution of this study's findings to the knowledge in the field of micropayments for online news. Three respondents abstained from making a qualified judgement due to their lack of familiarity with this research topic.

Outstanding aspects were the significant relationships of single payment platform and later payment towards perceived usefulness. Another important outcome was the lack of an influence between perceived trust and perceived content relevance towards perceived usefulness and/or perceived ease of use. This issue referred to differences between internal views of news experts and external views of news consumers. Finally, the robustness of the underlying TAM model used in this DBA thesis was highlighted.

Seven out of eight panel members supposed that the results have managerial impact for the application of online micropayment services for newspapers. Participants considered the thesis as particular useful to practice as an initial step and starting point, especially in the early stages of approaching the implementation of micropayments. Panel members suggested tackling business model transparency and technical issues for the wider acceptance of micropayments. Soft factors such as media brand and quality as well as noise factors were proposed as other factors affecting the attitude and intention to use.

The responses of the validation study questions are presented succinctly in Table 6.3.

**Table 6.3: Summary of validity study responses**

No.	Questions	Responses
1	What is your opinion on micropayments for online news in the Swiss market?	Mainly ambivalent views
2	What is your view of the results of the study?	Totally agreed on general results; mainly agreed on factor results
3	Please explain your reasoning for your answer in question 2.	Mainly agreed on justification
4	Do you believe that the findings of the study contribute to the research knowledge in the field of micropayments for online news? <input type="checkbox"/> yes <input type="checkbox"/> no	Totally agreed
5	What are the most important aspects of the findings that contribute to the research knowledge in the field of micropayments for online news?	Totally agreed on important aspects
6	Do you believe that the outcomes of the study have managerial impact for the application of micropayments of online news?	Mainly agreed
7	What are the most important aspects of the findings that contribute to the implementation of micropayments for online news?	Totally agreed on important aspects
8	What are your suggestions for wider acceptance of micropayments for online news amongst consumers?	Totally agreed on necessary actions
9	In your opinion, are there other factors — other than mentioned in the study — influencing consumers' usage of micropayments for online news in Switzerland?	Totally agreed on other factors
10	In your view, are there other aspects — other than considered in the study — shaping the consumer behaviour of paying for online news in the Swiss publishing market?	Totally agreed on other aspects

### 6.2.11 Conclusions

The validation study deliberated to probe the results of the main study among a group of eight professionals with academic or industry background in the field of micro-transactions, consumer behaviour and media economics. The commentary analysis, explanation and interpretation from the expert panel substantially extended the pilot study and main study, and most importantly supported the research model and research findings. Hence, the validation study validated the empirical research results.

Chapter Seven commences by providing a synopsis of the various research stages that were successively conducted to identify the factors that influence micropayments for the news industry in Switzerland. Conclusions of the accumulated insights from the research are stated, addressing the specific research objectives, followed by the contribution to theory and explicit recommendations for the managerial implications for micropayment implementation.



## **CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS**

### **7.1 Synopsis of research study**

At the beginning of this DBA thesis, a literature review was conducted that debated scholarly literature in the field of business models for newspapers in general and micropayments for online news specifically. Thereafter, the relevant literature for digital micropayments and related mobile payments was assessed and the importance of consumer behaviour research relating to the attitude toward and the intention to use online micropayments for news was highlighted. Furthermore, the antecedents of perceived usefulness and perceived ease of use, as well as external variables predicted to influence the use of online micropayments for news in Switzerland, were described in detail. Successively, a research question, a research aim and a series of four specific research objectives were established that delimit the purpose of this research project. Afterwards, the synthesis of the literature was carried out and the initial conceptual model was established including various integrated hypotheses that mirrored the relationships within the model. Following, the methodology for the pilot study and main study including the empirical examination was developed. The pilot study was then conducted with its results serving as a preliminary to the main study. Next, the main study was executed in two successive stages, where stage one sought to incorporate additional variables into the initial conceptual model — specifically relevant to micropayments — and arrived at the Alpha 1 model. In stage two of the main study, the relationships within the Alpha 1 model were then empirically tested. After the statistical analysis in the main study and a resulting refined version of the Alpha 1 model, the Alpha 2 model was confirmed with 10 relationships found to be significant and nine relationships that were not found to be significant in the final Beta 2 model. In Chapter Six, the final stage of this research project — the validation study — was described. It was conducted amongst a panel of academic scholars and industry professionals to gain qualitative subjective judgement on the quantitative empirical results to validate the research model and results.

The following section draws together the conclusions gathered from data throughout the various stages of the research process. A firm set of managerial implications and various strategic recommendations for the implementation of online micropayments with respect to the research questions are outlined. The contribution of this research study to the literature and its managerial impact is acknowledged. Lastly, the limitations of this research study are stated and future research opportunities are presented.

## **7.2 Conclusions**

This section presents the numerous conclusions of the accumulated insights from the research, addressing the specific research objectives stated in section 1.4.3 of Chapter One. Important deductions are drawn from the research findings and discussed in the following section for each research objective.

### **7.2.1 Research objective one**

Based on a literature review, to develop a conceptual model that investigates the impact of factors relating to mobile payment practices on consumers' attitudes towards the intention to use of micropayments.

This research's conceptual model was based on TAM and related studies on mobile payments and mobile marketing. Davis (1985) developed TAM and Davis (1989, 1993), Venkatesh and Davis (1996, 2000) and Sidnik and Graybeal (2001) enhanced this model to explain user acceptance of new technologies in a business context. The model suggests several behavioural determinants of actual use of information technology: consumer's attitude and intention to use. This research adopted TAM including perceived usefulness (see section 2.8.3) and perceived ease of use (see section 2.8.4) that impact consumer evaluations of actual usage. Since TAM has been demonstrated as a robust research approach for the acceptance of new technologies, it was applied in this study to predict user acceptance of online micropayment use. Furthermore, most external determinants of new technologies can be summarised into two dimensions: system characteristic and individual differences (Davis, 1993; Venkatesh, 2000) that were formerly adopted in consumer behaviour studies on mobile payments (Kim et al., 2010; Zhou, 2013). Subsequently, an extensive literature review of various studies on mobile payments, mobile apps and mobile marketing practices contributing to the understanding of user acceptance factors and consumer behaviour was conducted. The researcher synthesised a set of relevant external variables driving consumer acceptance of micropayment use: mobility, compatibility and convenience as system characteristics (see section 2.8.5) and innovativeness and knowledge about micropayments as individual differences (see section 2.8.6). All relationships of the above-mentioned determinants were joined towards actual micropayment use within the conceptual model as presented in Figure 3.1.

### **7.2.2 Research objective two**

Based on the research on the Swiss newspaper industry, to discover and implement additional system characteristics and individual features unique to micropayments.

While the conceptual model was derived from theoretical constructs and was based on mobile related studies, the researcher investigated additional variables — to be added to the conceptual model — explicitly in the context of online micropayment use in the Swiss newspaper industry. The pilot study pre-tested such further constructs having an encouraging effect on consumers' use. The pilot participants suggested universal payment platform, fair communication and unique value as new influencing determinants within the micropayment context. Due to its technical and systemic arrangements, universal payment platform was classified as system characteristic, while fair communication and unique value — being subjective in nature as to how and why readers adopt to micropayments — were classified as individual features. None of these constructs were previously identified as external variables in the precise context of micropayments, which is unique to the Swiss news industry. These additional variables were implemented in the study's conceptual model arriving at the Alpha model, as depicted in Figure 5.1.

The main study (interview stage one) identified numerous external variables that have an impact on consumer acceptance of micropayment use. Industry experts revealed later payment and single payment platform as additional system factors important to news consumers, influencing their perceived usefulness and perceived ease of use. Industry specialists further suggested perceived trust and perceived content relevance as individual features having an encouraging effect on consumers' adoption of micropayments. These four newly-identified factors were not detected in the previous literature and as such qualified as additional external variables that were implemented in the research model. The findings of the main study were strongly supported by the pilot study, since the presence of single payment platform, perceived trust and perceived content relevance were previously confirmed among the pilot participants. The linkages between all constructs are presented in the Alpha 1 model in Figure 5.6.

### **7.2.3 Research objective three**

To empirically examine the influence of existing and new factors on micropayment use in the Swiss newspaper consumer market and validate the results.

The main study (survey stage two) empirically assessed the linkages of the Alpha 2 model, which are comprised of existing factors from the literature review and new factors

from the interview stage one of the main study. The direct relationship between attitude and intention to use micropayments was proven to be significant at the 1% level and proved to be the strongest positive relationship in the research model (path coefficient of 0.954). Thus, the attitude of NZZ readers to micropayments had an enormous impact on their actual intention to use micro-transaction for online news. Another strong positive relationship was evidenced between perceived usefulness and attitude (path coefficient of 0.879). Subsequently, if a reader perceives online micropayments as useful, the evidence suggests that he is very likely to use them. Similarly, an increased perception of ease of use leads to increased user awareness towards online micropayments for news. Thus, attitude, perceived usefulness and perceived ease of use were confirmed as core essentials of the Beta 1 and Beta 2 model that play a vital intermediary step in the consumers' purchasing process. These results from the main study also added credibility to relationships within the theoretical framework. In addition, the outcomes enhanced tangential results from the previous literature on related mobile payments and e-payments studies proposed by Ming-Yen Teoh et al. (2013), Kim et al. (2010), Mallat (2007) and Chen and Adams (2005).

The main study further showed that seven relationships between the external variables and the antecedent variables were found to be significant — with three at the 1% level and four at the 5% level (see Beta 1 model in Figure 5.9). Mobility was found to be an important factor for both perceived usefulness (5% significance level) and perceived ease of use (1% significance level). Convenience had a robust positive effect on both antecedent variables with each relationship significant at the 1% level. Further, compatibility had a strong impact on perceived usefulness (1% significant level) and later payment (5% significant level) also showed a solid positive relationship to perceived usefulness. Moreover, a single payment platform was found to be an important behavioural determinant of micropayment use for readers. It can be inferred that system characteristics play a crucial role when considering micropayment implementation in the Swiss news industry. NZZ readers have proven all relationships between the five system characteristics with respect to perceived usefulness and, additionally, supported two out of four system characteristics with respect to perceived ease of use. Conversely, individual differences were not found to impact consumer attitude through their antecedent variables. This is a limitation of the Beta model that was evidenced in readers' purchasing behaviour.

The validation study probed the importance of attitude, perceived usefulness and perceived ease of use in the context of this study. The validation study also stressed the importance of mobility, compatibility, convenience, later payment and the single payment platform, and particularly their collective effect on perceived usefulness. Mobility, compatibility and convenience were also found to be standing requirements prior to purchasing online news. Later payment was seen as a prominent issue. Due to the competitive nature of newspapers, the implementation of a single payment platform was found to be questionable as an ultimate success factor. Moreover, the validation study pointed to the need of further research to investigate perceived trust towards and perceived content relevance of micropayments use. Overall, the validation study achieved consensus on the overall importance of the thesis results and the identified influencing factors. The panel probed the results of the main study and substantially extended the pilot and main study and, most importantly, supported the research model and research findings. Hence, the validation study validated the empirical outcomes of the research study.

#### **7.2.4 Research objective four**

To make recommendations based on the results from objectives 2 and 3, both from a consumer and industry expert's perspective, that will enhance revenue from digital content.

From a consumer's perspective, micropayments must be mobile, compatible and convenient, provide later payment functionalities and support a single payment platform, to enhance newspapers revenues from digital news content. NZZ readers regarded system characteristics of the greatest importance; hence, newspapers should focus on the actual consumers' findings to make micropayment services attractive to their readers. Among external variables, consumers perceived compatibility to have the greatest impact on their intention to use micropayments. Thus, in order to consider adopting micro services, newspapers must create them to be reconcilable with consumers' existing behavioural patterns. The same applies to mobility indicating that mobile micropayment services are likely to gain in significance in the future. Furthermore, convenience was identified as another key driver and thus is expected by news consumers as a preliminary part of online micropayments. In addition, perceived usefulness, perceived ease of use and attitude to actual intention to use micropayments were found to play an important role in consumer awareness of online micro-transactions in the Swiss news industry.

From an industry expert's perspective, the findings confirm that news providers must boost their digital news strategies towards non-subscribers to grow revenues from online content. Online micropayments were found to be one promising service that helps publishers to address this issue. However, it is crucial that micropayment services must meet consumers' expectations — as empirical data suggested in this study — to be successful. Newspapers focussing on the most important system characteristics will be at the forefront. Overall, the findings could serve as a guide to inform industry experts so that appropriate news strategies can be crafted to adapt to and implement micropayments. Further, industry experts must accept that their predicted determinants towards micropayment use, namely innovativeness, knowledge of micropayments, perceived trust and perceived content relevance, were not found to have an influence on consumer awareness. Thus, individual features do not play a role in the purchasing process and newspapers must consider this finding when developing their digital news strategies. Future investigations need to study consumers on how and why to use online micropayments. Explicit recommendations for the managerial implications drawn from this research study are provided in section 7.3.2.

### **7.3 Contribution to theory**

This study is among the first to empirically test behavioural factors that influence the consumer use of online micropayments in the news industry. No prior study is known to have been conducted, specifically in the Swiss market. The researcher developed a research model based on theoretical considerations specifying determinants of consumers' intention to use micropayments. Combining data from semi-structured interviews with industry experts with a web survey amongst readers of NZZ.ch, empirical support was found for numerous relationships in the proposed model. Hence, there are several noteworthy contributions to the literature, which are described below.

First, this study has narrowed the gaps in former research investigating factors between micropayments and mobile payment acceptance (Dahlberg et al., 2003; Hwang, 2004; Chen, 2008; Gerpott and Kornmeier, 2009; Chandra et al., 2010; Kim et al., 2010; Schierz et al., 2010; Anthony and Mutalemwa, 2014), electronic payments (Ming-Yen Teoh et al., 2013), mobile apps (Hsu and Lin, 2015) and mobile marketing (Gao et al., 2012).

Second, the topic of micropayments as emerging business models for newspaper organisations to monetise digital news to sustain profitability has been addressed. Despite previous support for the topic of micropayments (Time, 2009; Mings and White, 2000;

Graybeal and Hayes, 2011; Geidner and D'Arcy, 2015; Mitchell et al., 2016), this study was the first known attempt to address the critical research gap by showing evidence that readers intend to use online micropayments. Moreover, the study provides concrete influencing factors towards the use of micro-transactions. The findings build on exploratory micropayment studies such as the Nielsen survey (Covey, 2010), the Evangelista study (Evangelista, 2010), the study carried out by the Boston Consulting Group (BCG, 2009) and moreover, supports findings from Sindik and Graybeal (2011) and Graybeal and Hayes (2011). Further, the results in this study disagree with Shirky's criticism (2000, 2003) that micropayments could never work for the news industry.

Third, this study explored acceptance factors that impact consumer behaviour towards purchasing digital news via micropayment services. These factors include mobility, compatibility, convenience, post-pricing and the demand for a single payment platform which influence the usefulness perception and easiness perception and point to the attitude and use of micro transactions. Based on the consumers' assessment, these determinants were all deemed to be system characteristics. Various related studies examined user acceptance determinants, however, no such set of determinants is known to exist for micropayments and thus, this study has addressed the incremental research gap as suggested by Sindik and Graybeal (2011).

Fourth, new factors were introduced to the conceptual model, all deemed to be key determinants in the experts' assessment of consumer acceptance of micropayments. The system characteristics later payment and single payment platform, as well the individual differences perceived trust and perceived content relevance, were introduced in the exploratory part of this study. Emphasised by the results from research question 2, the news consumers supported two of these factors, namely later payment and single payment platform, which reinforced the importance of system characteristics. This thesis was the first attempt to empirically investigate the relationships between these newly-identified factors and perceived usefulness as well as perceived ease of use.

Fifth, the implementation of a single payment platform would overcome the barrier of unstable and disruptive payment methods for small transactions. Hence, the results are somewhat at odds with the findings of Geidner and D'Arcy (2015), who formerly indicated the "*lack of a stable method for processing small payments*" (p. 4), and affirm Smith (2003), who addressed the need for a suitable payment-processing method that aggregates small amounts. By the application of such a unique payment infrastructure,

readers would perceive micropayments as useful and beneficial, which in turn supports their attitude towards purchasing digital news through micro transactions.

Sixth, the identification of the later payment factor addresses the mental transaction costs which concerned Szabo (1999), who argues that micropayments raise fundamental barriers to readers since they are required to decide whether the story is worth the cost or not before buying the news content. With a post-pricing functionality for digital news, the mental transaction costs would become obsolete, as users would not have to go through an informal profit-loss analysis with every article they wanted to read.

Seventh, this research bridges the gap between research and practice on innovative technologies. The absent correlation of executives' views on new technologies and their use of consumer feedback was addressed by Saksena and Hollifield (2002), who recommended that managers in the newspaper industry should involve consumer research on the subject of new technology acceptance. This research framed a comprehensive approach by combining both perspectives of news industry experts and consumer views.

More specifically, several researchers stressed the importance of including consumer feedback on use factors for micropayment investigation (Szabo, 1999; Shirky, 2000, 2003; Herzberg, 2003; See-To et al., 2007; Mutter, 2009; Sindik and Graybeal, 2011; Graybeal and Hayes, 2011). These researchers gave hints about the generally favourable preconditions of micropayments of online news, mainly based on theoretical constructs. This study not only involved customer feedback, but also it was proven by consumers that attitude is the key determinant driving micropayment use.

Eighth, as discovered in the validation study, academic professionals underpinned the consideration of TAM theory for the examination of micropayments. The validated model provides the possibility for similar studies to be conducted including the numerous factors provided by the validation study participants: noise factors (economic situation and political situation of the investigated country), soft factors, for example media brand and perceived quality as well as pricing risk. The vast amount of potential additional factors indicates complexity of consumer behaviour towards micropayment use — as indicated by Tornatzky and Klein (1982) and Mallat (2007) — and needs to be explored in future studies.

With regards to the TAM theory, this thesis also makes a valuable contribution to the methodology used in this study combining semi-structured interviews with industry



experts and a web survey conducted among readers of digital news. The methodology utilised has been used to probe the connection with the TAM model.

A summary of the noteworthy contributions to theory gained from this study among behavioural factors that influence online micropayments in the news industry can be found in Table 7.1.

**Table 7.1: Contribution to theory**

Theoretical contribution	Current research contribution	Contribution from thesis
Approximation of mobile payment and micropayment acceptance	<p><b>Mobile payment acceptance</b> Dahlberg et al. (2003); Hwang (2004); Chen (2008); Gerpott and Kornmeier (2009); Chandra et al. (2010); Kim et al. (2010); Schierz et al. (2010); Anthony and Mutalemwa (2014)</p> <p><b>Electronic payments</b> Ming-Yen Teoh et al. (2013)</p> <p><b>Mobile apps</b> Hsu and Lin (2015)</p> <p><b>Mobile marketing</b> Gao et al. (2012)</p>	Investigated factors among mobile payments and micropayments
Micropayments for news as business model	<p><b>General support on micropayments</b> Time (2009); Mings and White (2000); Graybeal and Hayes (2011); Geidner and D’Arcy (2015); Mitchell et al. (2016)</p> <p><b>Exploratory micropayment studies</b> BCG (2009); Covey (2010); Evangelista (2010)</p> <p><b>News micropayments</b> Shirky (2000, 2003); Sindik and Graybeal (2011); Graybeal and Hayes (2011)</p>	<p>First attempt to address research gap</p> <p>Proof of micropayments’ use providing specific influencing factors</p> <p>Agreement with research base with the exception of Shirky (2000, 2003)</p>
Consumer acceptance factors towards micropayments	<p><b>Acceptance determinants</b> Smith (2003); Sindik and Graybeal (2011)</p>	Explored set of factors towards micropayment acceptance
Investigation of relationships between factors in research model	<p><b>Acceptance determinants</b> Sindik and Graybeal (2011)</p>	Empirical investigation between relationships of various factors
Purchasing barrier to use micropayments I	<p><b>Unstable, disruptive payment method</b> Geidner and D’Arcy (2015)</p>	Disagreement: Overcome barrier with single payment platform
Purchasing barrier to use micropayments II	<p><b>Mental transaction costs</b> Szabo (1999)</p>	Disagreement: Overcome barrier with later payment
Gap between research and practice on new technologies	<p><b>Absence of consumer feedback on new technologies at newspapers</b> Saksena and Hollifield (2002)</p> <p><b>Importance of consumer feedback on micropayments (for news)</b> Szabo (1999); Shirky (2000, 2003); Herzberg (2003); See-To et al. (2007); Mutter (2009); Graybeal and Hayes (2011); Sindik and Graybeal (2011)</p>	<p>Comprehensive research including industry views and consumer views</p> <p>Findings empirically proven by consumers</p>
TAM theory for investigation of micropayments	<p><b>Complexity of consumer factors</b> Tornatzky and Klein (1982); Mallat (2007)</p>	Enhanced the current thinking on TAM by adding new factors

Source: Author.

## **7.4 Recommendations for practice**

Whereas this study has a confirmatory nature and its primary intention is not to develop instrumental recommendations, various managerial implications can be drawn based on the conclusions in section 7.2. Of particular importance to managers at NZZ AG considering digital micropayment services to news consumers is the question of how to effectively apply and implement micropayment solutions to non-subscribers.

### **7.4.1 Develop micropayments strategies**

Overall, the findings have highlighted the significance of several behavioural factors investigated, allowing managerial recommendations from the perspective of strategies regarding the use of micropayments. At a broad level, the results suggest that NZZ should enhance their digital news services including micropayments in view of the promising consumer acceptance. Without question, it is mandatory that online micropayment services for news must meet readers' expectations. Evidence from the main study shows that micropayment solutions should prove themselves to be primarily useful and secondarily easy to use in order to direct non-subscribers' attention towards micropayment use. Like other newspapers, NZZ must maintain a competitive advantage where innovative technologies can stimulate new business models to their reader base, and yet acquire new customers. On this note, the outcomes could serve as a guide to NZZ so that appropriate micropayment strategies can be developed to enhance digital news revenues. As strategy develops, the factors investigated must be considered to successfully adapt and implement micropayment services. This will not only create consumers' awareness, but also generate revenue and expand market share.

### **7.4.2 Improve the antecedents of attitude**

Perceived usefulness and perceived ease of use appear to be substantial factors of micropayment attitude, which in turn impacts micropayment use and thus legitimises extra attention from NZZ. The publisher must take their characteristics into account, as confirmed by the consumers. Specifically, perceived usefulness warrants consideration, based on its high t-value, as micropayments were found a) to be a beneficial payment method for digital news, b) to simplify the reading experience and c) to encourage readers to pay for digital news. The latter criterion — which was among the top cross-loadings — points to readers' concrete willingness to pay for news and to potential growth rate. These attributes are the core from the consumers' perspective and must determine micropayment strategy. It is also noteworthy that the importance of perceived ease of use and its characteristics must not be overlooked. Specifically, the publisher must work on

the consumers' answers in the survey, that a) micropayments would allow them to read digital news in a flexible way, b) are easy to use and c) can easily be learned. The first factor of flexibility can be interpreted as meaning that those users not willing to pay for flat-fee subscriptions can be offered alternative business models for small stories. Regarding the latter factor on easy learning points to users' age: 55% of the user base in the web survey was 51 years or older and appear open to innovative payment methods. In any case, when considering micropayments, NZZ must prioritise perceived usefulness and perceived ease of use.

### **7.4.3 Focus on system characteristics**

The findings on the external variables of mobility, compatibility and convenience led the researcher to highlight facets for attention. Mobility, compatibility and convenience were found to have a substantial positive effect on perceived usefulness and the first and the latter on perceived ease of use. Building on mobile micropayments that command consumers' attention may be achieved by monetising the significant amount of website traffic coming from mobile users (Westlund, 2013). Effective user targeting of mobile consumer segments may allow for efficient guiding of micropayments. This is of particular relevance to mobile platforms that allow for customisable micropayment offers based on users' profiles. Also, a one size fits all solution is unlikely to achieve optimal results. Younger mobile users especially are familiar with micro-transactions for mobile purchases in apps, for ringtones and songs. Hence, specific user targeting of micropayment services to different age groups can respond to accordingly. Referring to a report from the Tow Center for Digital Journalism, mobility exemplifies great potential for news publishers (Grueskin et al., 2011, p. 81):

*"... if publishers really hope to expunge the 'original sin' of giving away content free online, they may be best positioned to do so not on the computers where they first gave away their wares, but on mobile devices that offer a more welcoming environment."*

Further, compatibility warrants extra attention from software developers. Any amendments and extensions to current payment systems must take micropayment services into account. Banking institutions can play an important role in informing users about payment facilities. NZZ must include terms and conditions for payments in their micropayment considerations. To enhance the convenience of micropayments, video demonstrations — especially to older recipients — could be made available showing features, the usefulness of micropayments services and the ease of use of the micro-transactions. Furthermore, operating processes must be monitored and frequently

examined based on feedback from micropayment customers. In addition, particular features among the NZZ reader base that contribute to mobility, compatibility and convenience should be found out — once a micropayment solution is in place — to continually improve it. This can be accomplished by consumer surveys and user experience studies. Software developers must keep this in mind when designing and programming the micropayment solution.

#### **7.4.4 Consider later payment**

As demonstrated in the main study, later payment needs to resonate with the consumer base with the user-friendliness of micropayment use. Several participants in the validation study stressed the need for post-pricing digital news. Should micropayments be marketed correctly, NZZ is thought to provide a frictionless technology to convert readers (non-subscribers) into paying customers by giving them immediate access to paid content without requiring upfront payment. This implies that the micropayment solution needs to match across the website or in the app each and every small piece of news content that the consumer wishes to purchase with the demand for actual payment at a later stage. The aggregation of the numerous news items into the shopping basket must be clearly and transparently communicated and the consumer must be educated in the post-pricing process. It is imperative that software developers consider mobility, compatibility and convenience when creating later payment services.

#### **7.4.5 Options for micropayment services**

NZZ can establish successful micropayment schemes if they make sure the above-mentioned consumer expectations are met. Implementing them uniformly across the NZZ.ch website might be likely to be unsuccessful, hence, different options should be considered. However, the publisher could use micropayment systems with its existing payment infrastructure and charge for news articles in the news app. The advantage is the obvious reuse of existing systems including secure payment procedures for consumers. Alternatively, NZZ could charge for customised stories or those focussing on specific topics, preferably exclusive content. As a complementary revenue scheme to flat rates, micropayment models could imitate the dynamic paywall to monetise specific parts of website content. In the literature, this structure was already suggested by Geidner and D'Arcy (2015). Similarly, like the paywall model, micro transactions could be linked to detailed parts of the website or a selection of news stories with the rest of the website being accessible for free — again, like the paywall model. This solution would help NZZ to monetise content from registered users (that are not subscribed) that were not attracted

by the offer presented at the time they hit the paywall and thus gain additional incomes. The stories to be selected for the micropayment option must truly attract the consumer base. As suggested in the validation study, custom news content could be local reports or focused stories, e.g. from Swiss sports events.

The collaboration with remote micropayment service providers that master the criteria of user-friendliness and ease of use should also be considered. The selected provider, however, must demonstrate a proven customer research record to fulfil the consumer factors that drive attitudes toward micropayment use. On this score, user experience managers and product development managers must closely work together with the management board to make the right decision for the appropriate consumer-oriented solution — whether this is an internal or an external micropayment solution. Whatever option is chosen, NZZ must focus on system characteristics prescribed in the previous sections 7.4.3 and 7.4.4 and be open for exploration as described in the following section.

#### **7.4.6 Publisher trials**

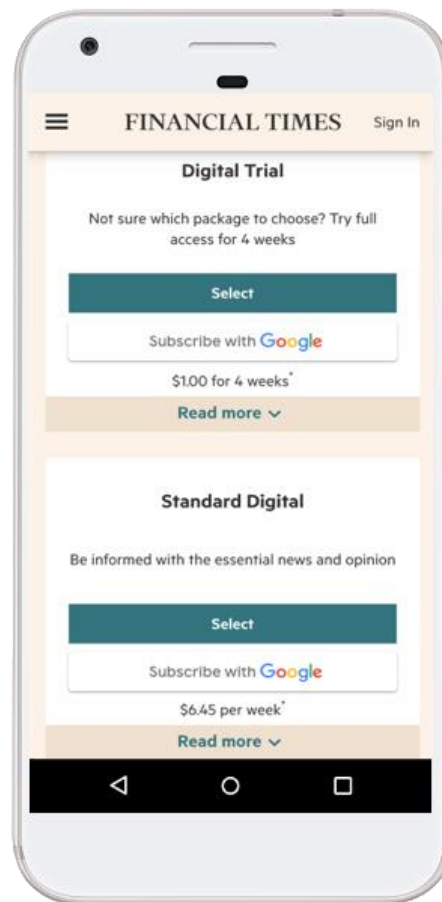
The findings from the validation study imply that trialing the application and implementation of micropayments is imperative for news publishers. As suggested by the validation participants, trialing will reduce the uncertainty regarding the consumer behaviour that is necessary to adapt to micropayments. This study clearly demonstrated characteristics relevant to successful micro-transaction schemes in the actual NZZ reader base. Hence, it is suggested that NZZ starts experimenting with micropayments on a limited basis. Studying the thesis results and developing a micropayment strategy upfront — as suggested in section 7.4.1 — will support this initiative. It is strongly recommended to align this proposition with the existing paywall and paid content strategy and target users that neglected flat-fee subscriptions, paywall offers and trial subscriptions. Further, split tests could be run to differentiate consumer behaviour between heavy users and low usage readers. As the study suggested, there is a gap between internal perspectives and external views of success factors that drive micropayments. Here, NZZ would be best advised to heed guidance from their reader base and start exploring micropayments in an introductory phase.

#### **7.4.7 The time for micropayments is here**

The micropayment landscape, specifically in Switzerland, could change dramatically within the next few years — the time for micropayment adoption is favourable in several ways.

First, the future of micropayments for digital news has received recent backing by Google Subscribe, a kit comprising products and policies driving consumer revenue streams to news publishers, launched on 20<sup>th</sup> March 2018 (Albrecht, 2018). This new functionality uses Google accounts, enabling consumers to buy single news articles via micropayments, but also to purchase flat subscriptions. Subscribe allows readers to access and pay for digital news content using account information including personal data (e.g. memorises passwords) and credit card information deposited in existing Google accounts.

**Figure 7.1: Google Subscribe**



Source: Albrecht (2018).

Subscribe strengthens the findings in this thesis in various ways: 1) Subscribe will likely increase users' perceived ease of use since the solution eliminates the need for (complicated) registration processes on news publishers' platforms; 2) Subscribe is a one-click service, which was an important attribute found in the main study interviews and a confirmatory high cross-loading in the statistical analysis (see construct SPP\_1 in Table 5.12); 3) Subscribe offers frictionless payment with credit card details already provided to Google and thus supports the finding of a single payment platform (see section 5.2.6.4);

4) while Subscribe is made for several devices, Google demonstrates a strong focus on mobiles and hence points to the mobility factor, as shown on their product presentation and launch information (see Figure 7.1); 5) Subscribe is likely to support the constructs of compatibility and 6) convenience, because Google deals with account settings (e.g. helps users to stay logged in), the payment modalities and subscription processes (e.g. retain access to specific news content) across the web. The above-mentioned points two to six are likely to support the perceived usefulness and perceived ease of use of users that drive attitudes to micropayments and intention to use. Google Subscribe is expected to make it easier for publishers to reach new readers, drive conversions and engage subscribers (Albrecht, 2018). Hence, Google Subscribe will likely change the micropayment landscape intensely in the near future.

Second, the No Billag referendum leads the researcher to highlight a noteworthy aspect with specific regard to Switzerland. Recently, Swiss voters have resolutely rejected a proposal to eliminate the national broadcasting licence fee. Switzerland voted in the No Billag poll on 4<sup>th</sup> March 2018, on whether to terminate the obligatory fee of CHF 451 (~ GBP 340) per annum per household. The Swiss Broadcasting Corporation SRG SSR with programming in all language parts of the country is 70% funded through radio and television licence fees (Häberli, 2017). The referendum was defeated in all cantons with more than 71% voting against the initiative (Schoenenberger, 2018). The strong defeat of the No Billag proposal is a clear sign to keep paying for public TV and radio. The outcome of the referendum can be interpreted as Swiss consumers supporting media houses by their willingness to pay for journalistic content, although media consumption increasingly takes place on the internet. This moment represents an opportunity for news publishers to profit from the great awareness among the Swiss population and their ‘yes’ in favour of paid content.

A summary of the mutual recommendations for practice is listed in the Table 7.2.



**Table 7.2: Recommendations for practice**

Reference from thesis	Recommendation item for practice	Characteristic of recommendation item
Significance of consumer factors to micropayment use as business model	Develop micropayments strategies	Apply micropayments to enhance digital news services  Outcomes guide strategy development, new customer acquisition and revenue growth
Perceived usefulness (PUN) and perceived ease (PEU) impact micropayment attitude	Improve the antecedents of attitude	Prioritise antecedents in the set-up of micropayment strategy  Characteristics from survey warrant specific consideration
Strong effects of mobility, compatibility and convenience to PUN and PEU	Focus on system characteristics	Mobile micropayments; use of effective targeting & mobile user segmentation  Attention on amendments to current payment systems  Enhance convenience for older recipients (e.g. videos)  Continually monitor & improve micropayments
Strong effect of later payment to PUN	Consider later payment	Enabling immediate access to consumers to paid content without upfront payment  Aggregation of news pieces for post-pricing and transparency
Literature findings on micropayment models (Geidner and D'Arcy, 2015)	Options for micropayment services	General: Complementary to flat-fee and paywall for registered users  App: Use existing payment structure for secure procedures  Web: Imitate paywall; charge for detailed parts of the website
Suggestions from validation study	Publisher trials	Experiment with micropayments to reduce uncertainty regarding consumer behaviour
Findings on single payment platform and Swiss context relevance	Time for micropayments is here	Launch of Google Subscribe (20 March 2018)  Defeat of No Billag referendum (4 March 2018)

#### **7.4.8 Transferability of results**

It is essential to note that the specific findings in this study are bound to the NZZ context. Hence, the study is limited due to the survey sample in the main study. However, with careful consideration of the specific subjects, methods and situations, news publishers other than NZZ may use the findings of this thesis for their micropayment concepts. Taking this into account, various news organisations can benefit from the managerial implications and strategic recommendations to adapt and implement micropayments as presented in sections 7.4.1 to 7.4.7. As an initial step, news publishers may use this thesis as a guideline to consider a micropayment services within their broad paid content strategy. Since this study used the well-established TAM model, news publishers can confidently pay attention to the antecedents of perceived usefulness and perceived ease of use. While system characteristics were found to be most important drivers of micropayment use, special care should be paid to the specific characteristics, as they may be unique for each newspaper. Hence, the recommendations on mobility, compatibility, convenience and later payment may be true for other publishers, however, they should surely be examined within their specific context. The recommended options for micropayment services at NZZ can be used as an evaluation guide ahead of implementation. In any case, trialing is suggested to any publisher to investigate micropayments as promising business models to drive direct revenue from consumers.

#### **7.5 Areas for further research**

Generally, future researchers can repeat the same research by either replicating the conditions and then testing their results in a similar manner (literal replication) or by varying specific aspects among the conditions (theoretical replication) (Yin, 2013).

Specifically, this study guides future research regarding factors of micropayment use. While this study identified several factors to micropayment acceptance as a first attempt, future research may well focus on more adequate and acceptable factors. New variables should include noise factors, soft factors and pricing risk, as highlighted in the validation study. Exploration of the effects of the antecedent variables and moderating variable on the intention to use is encouraged. In the future, a researcher should relate the newly-identified factors and relationships to the characteristics found in this study. Future research should explore more mobile micropayment opportunities, especially to differentiate the effects between mobile websites and mobile apps.

It is important to note that the findings are bound to the Swiss context. The sample this study used was of NZZ.ch readers and hence, the ability to generalise the results to the general public is limited. With that in mind, non-subscribers are the most likely group to use micropayments. Future research should replicate this study using a representative sample either of Switzerland or another country.

As highlighted in the validation study, perceived trust and perceived content relevance towards micropayments use should be further explored. Other newspapers may provoke a different response from consumers. In this respect, it would be interesting to subject the model to news portals that are not newspapers to understand if the same factors are true.

Finally, future research should devise micropayment types, value amounts, payment systems and currencies. Findings may well influence consumers' attitude to use micropayments for digital news and explain ways to understand better the conditions under which readers would accept payment for news via micropayments.

## **7.6 Limitations of the study**

The limitation of the research was that the study considered only Switzerland and no other countries. The use of convenient non-probabilistic purposive samples in the interview phase of the study means that findings from the research may not reflect the characteristics of the Swiss population. Furthermore, the use of NZZ.ch consumers in the survey phase of the study confines the results from the quantitative method to a particular news organisation. Having established the scope of this research, the researcher accepted these limitations. The restricted scope was necessary to provide sufficient focus and allow the research to be carried out within time and resource boundaries (Wallace and Pfab, 2012). The research used a combination of qualitative and quantitative methods for data collection and provided advantages and explanations for the use of their specific techniques. Implementing contrary methods offset the disadvantages of each method. It may be argued that different data collection methods could have been used in this study. However, the semi-structured interviews as qualitative method and the web survey as quantitative method were considered the best fit for this research project, as justified in sections 4.5.2 and 4.5.3.

## APPENDIX A: CONSTRUCT FOR SEMI-STRUCTURED INTERVIEWS

Construct	Open questions (item)	Expected outcome to extract from the question and sample answer
Introduction	In 2-3 sentences, could you please tell me what your is role at your institution related to newspaper strategies and business models?	<ul style="list-style-type: none"> <li>• Test question as an ice-breaker</li> <li>• Learn about interviewee’s role</li> <li>• Pay attention to interviewee</li> </ul>
	What is your involvement in the strategy management process at your company?	<ul style="list-style-type: none"> <li>• Learn about the degree of decision-making involvement</li> </ul>
	How does your role relate to consumer behaviour?	<ul style="list-style-type: none"> <li>• Learn about the degree of consumer behaviour involvement</li> </ul>
Online news	What is your opinion about digital news in Switzerland?	<p>Example:</p> <p>The use of digital news will increase; print news will decrease.</p>
Business models	What factors are involved in changing consumer spending on digital news?	<p>Example:</p> <p>Consumers will not be willing to pay high subscription prices; newspapers need new features to increase the willingness to pay.</p>
Micropayments	One type of business models is micropayments. What types of micropayments for online news do you know?	<p>Examples:</p> <ul style="list-style-type: none"> <li>• Pay per article</li> <li>• Day pass</li> <li>• In-app purchasing</li> <li>• Apple Pay</li> <li>• Blendle</li> </ul>
	How would you define micropayments in the context of online news?	<p>Example:</p> <p>A payment where little money is involved by someone who pays to read news on a website or app.</p>
	In your opinion, how do you estimate the consumer demand for micropayments for online news?	<p>Example:</p> <p>As long as consumers don’t know about its existence they don’t care although they would start using it if they know about it.</p>

Factor identification	From your point of view what factors have a <u>positive</u> effect on consumers to use micropayments for online news?	Examples: <ul style="list-style-type: none"> <li>• Usability</li> <li>• Security</li> <li>• Usefulness</li> <li>• Trust</li> </ul>
	From your point of view what factors have a <u>negative</u> effect on consumers to use micropayments for online news?	<ul style="list-style-type: none"> <li>• Payment gateway</li> <li>• Amount of payment</li> <li>• Transaction cost</li> </ul>
	Academic literature argues that the following factors influence consumers' acceptance of micropayments: mobility, compatibility, convenience, innovativeness and knowledge. Why is one more important than the others?	Examples: <ul style="list-style-type: none"> <li>• Please explain mobility to me</li> <li>• All are equally important</li> <li>• Convenience is the utmost factor</li> </ul>
	What other influencing conditions prompt consumers to use micropayments for online news?	Example: <ul style="list-style-type: none"> <li>• Privacy</li> <li>• Usability is the key factor</li> <li>• Swiss market conditions</li> </ul>
	When do you think that micropayments will take off for online news?	Examples <ul style="list-style-type: none"> <li>• 5 years from now</li> <li>• Process has already started</li> </ul>
Barriers	What are the barriers to implement micropayments in newspaper company? How do you address these?	Examples: <ul style="list-style-type: none"> <li>• Senior management decisions</li> <li>• Limited internal knowledge</li> </ul>
	What kind of conflicts, if any, has your institution faced with micropayments? Why do these occur? How do you address these?	Examples: <ul style="list-style-type: none"> <li>• No software</li> <li>• Never thought about it</li> <li>• Willingness to pay</li> <li>• Age of target audience</li> </ul>
Sensitive issue	What country-specific factors of micropayments for online news exist in Switzerland, for example compared to Germany, the UK or the US?	<ul style="list-style-type: none"> <li>• Learn about country-specific and additional factors that may be relevant</li> </ul>
Other	Do you have any other thoughts about the topic of micropayments?	Example: Who else takes part in the interview sessions?

## **APPENDIX B: INFORMED CONSENT FORM**

This study investigates micropayments for online news from a consumer's perspective. The results from this interview will help the news industry to understand why newsreaders use online micropayments across Switzerland. The interview is supported by the Heriot-Watt University and NZZ and will help me to complete my doctoral degree.

### **Project title**

THE IDENTIFICATION OF FACTORS THAT INFLUENCE ONLINE  
MICROPAYMENT USE IN THE NEWS INDUSTRY IN SWITZERLAND

### **Research team:**

Primary investigator:  
Manja Pfeiffer, DBA candidate  
Witikonerstrasse 341  
8053 Zürich  
Switzerland

Supervising investigator:  
Professor Steve Carter, DBA mentor  
Edinburgh Business School  
Heriot-Watt University  
Edinburgh EH14 4AS, Scotland

### **Purpose of the study**

You are invited to participate in this research study because you are an *expert in newspaper strategies* and its business models. The purpose of this research study is to investigate the factors that influence consumers' usage of online micropayments in the Swiss newspaper industry. The primary investigator will conduct the research in two stages: semi-structured interviews with industry experts (stage 1) and a nationwide web survey among consumers of online news (stage 2). Your participation comprises part 1 only. The findings of this study will assist in producing recommendations to create innovative business models in the new industry, specifically related to micropayments.

### **Participants**

Nine industry experts, three from each expert group, will take part in the interview study (stage 1). The expert groups are: 1. experts in micropayments services, 2. experts in newspaper strategies and 3. experts from industry observing companies. A large number of consumers will take part in the web-based survey (stage 2).

### **Time**

Your involvement of the study will last for a maximum of 1 hour.

### **During the study**

The principal investigator will conduct a semi-structured interview. Interview questions will ask about your perspective of factors that are responsible for consumers to use micropayments for online news. The principal investigator has a set of questions designed to help you to relate your perspectives; however, over the course of the interview, additional clarifying questions may be asked. During this study: 1. you will be asked to

sign this informed consent document for your research participation; 2. you will be offered a copy of this document for your records; and 3. you are free to skip any questions that you would prefer not to answer, and you may end your participation at any time.

### **Audio recording**

One aspect of this study involves making audio recordings of your participation. The audio recording will be used to transcribe the semi-structured interview. Recordings will be made on a digital voice recorder and stored in a locked location until transcription, at which time they will be destroyed. Complete transcriptions will be stored on a password-protected computer. The recorded information may be used as citation to underpin relevant and important information.

Yes  No **I give you permission to make audio recordings of me during this study.**

### **Confidentiality**

This study is anonymous. The study does not collect or retain any information about your identity with the exception of using your role and the organisation's name. The records will be kept strictly confidential. You will be given the opportunity to review and approve any material that is published about you.

### **Questions**

We encourage you to ask questions. If you have any questions about the study, please contact: Manja Pfeiffer, +41-79-656-38-46, manja\_pfeiffer@gmx.de.

Your signature indicates that this research study has been explained to you, that your questions have been answered and that you agree to take part in this study.

Subject's name (printed): \_\_\_\_\_

\_\_\_\_\_  
(Signature of subject)

\_\_\_\_\_  
(Date)

### **Statement of person who obtained consent**

I have discussed the above points with the subject or, where appropriate. It is my opinion that the subject understands the risks, benefits and procedures involved with participation in this research study.

Name of person who obtained consent (printed): Manja Pfeiffer

\_\_\_\_\_  
(Signature of person who obtained consent)

\_\_\_\_\_  
(Date)

## APPENDIX C: SURVEY INSTRUMENT

**Table C.1: Measurement scales utilised in web-survey**

Stage in research model	Construct and scale items for micropayment characteristics	References from literature
Implication	<p><b>Intention to use</b></p> <p>Given the opportunity, I will use micropayments for online news.</p> <p>With micropayments, I would access online news more often.</p> <p>I am likely to use micropayments for online news in the next six months.</p> <p>Five years from now I intend to use micropayments for online news.</p>	<p>Davis (1989); Venkatesh and Davis (2000)</p>
Moderating variable	<p><b>Attitude to use</b></p> <p>I like the idea of micropayments for online news.</p> <p>I would enjoy purchasing online news through micropayments.</p> <p>Micropayments for online news are interesting.</p> <p>Micropayments for online news are beneficial.</p>	<p>Fishbein &amp; Ajzen (1975); Davis et al. (1989)</p>
Antecedent variables	<p><b>Perceived usefulness</b></p> <p>Micropayments are a useful payment mode for online news.</p> <p>Using micropayments enables me to pay for online news content quicker.</p> <p>Using micropayments would enable me to read more online news.</p> <p>When using micropayments for online news, my choices as consumer are improved (e.g. flexibility, access).</p> <hr/> <p><b>Perceived ease of use</b></p> <p>Learning to use micropayments for online news is easy.</p> <p>Micropayments for online news are easy to understand.</p> <p>Micropayments are an easy way to get access to online news.</p>	<p>Taylor and Todd (1995); Bhattacharjee (2001)</p> <hr/> <p>Davis (1989); Taylor and Todd (1995); Venkatesh and Davis (2000)</p>




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External variables	<b>System characteristics</b>		
	<b>Mobility</b>	Kim et al. (2010); Schierz et al. (2010)	
	I believe micropayments for online news are independent of time.		
	I believe micropayments for online news are independent of place.		
	I can use micropayments for online news anytime while travelling.		
	<b>Compatibility</b>	Karahanna et al. (1999); Mallat et al. (2006); Chen (2008)	
	I believe micropayments are compatible with existing (payment) technology.		
	I trust micropayments are compatible with my lifestyle.		
	<b>Convenience</b>	Davis (1989); Kim et al. (2010)	
	Micropayments are convenient, because I can access online news anytime.		
	Micropayments are convenient, because I can access online news anywhere.		
	Micropayments are convenient, because they are not complex.		
	<hr/>		
		<b>Individual characteristics</b>	
	<b>Innovativeness</b>	Goldsmith and Hofacker (1991); Gao et al. (2012)	
I know about new technologies before other people do.			
I am usually among the first to try new technologies.			
I often recommend new technologies to others (e.g. Apple Pay, TWINT, news specific applications).			
<b>Knowledge</b>	Kim et al. (2010)		
I enjoy purchasing products of small amounts online.			
I use credit cards or internet banking for micropayments for online news.			
I would be confident to use micropayments for online news.			

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## Appendix C.2: Email German version

Von NZZ Marketing <reply@email.nzz.ch> 

Antworten | Allen antworten | Weiterleiten | Mehr ▾

Betreff **Test Send - Ihre Meinung ist gefragt: Umfrage mit Gewinnchance** 01.12.17 15:44

Online Version

# Neue Zürcher Zeitung

Sehr geehrter Herr Zizak

90 Rappen für einen einzelnen Artikel statt 5 Franken für eine Zeitung? Gut möglich, dass das Bezahlen einer geringen Summe für einzelne Zeitungsartikel bald Wirklichkeit wird. Diese sogenannten Online-Mikrozahlungen kennen wir ja zum Beispiel bereits vom Herunterladen von Musikstücken.

Wie stehen Sie zu diesem Trend? **Ihre Meinung** als Leser ist uns sehr wichtig. Wir laden Sie deshalb ein, an einer Befragung zu **Online-Mikrozahlungen** teilzunehmen.

[Hier geht es zur Umfrage](#)

Als Dankeschön verlosen wir unter allen Teilnehmenden **drei Gutscheine im Wert von je 30 Franken für den NZZ-Shop.**

Wir freuen uns auf Ihre Meinung und danken Ihnen herzlich für Ihre Teilnahme.

**Ihre «Neue Zürcher Zeitung»**

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[Kontakt](#) | [Datenschutz](#) | [Newsletter abbestellen](#)

## Appendix C.3: Web survey German version

### Umfrage zu Online-Mikrozahlungen

Bekannte Beispiele von Mikrozahlungen sind der Kauf eines Songs bei iTunes oder einer App fürs Smartphone. Bei Zeitungen könnte diese Zahlungsart künftig für den Kauf einzelner Artikel genutzt werden.

Ihre Meinung zu diesem Thema wird uns helfen, die Akzeptanz von Online-Mikrozahlungen für Nachrichten besser zu verstehen. Unter allen Teilnehmern der Umfrage verlosen wir **drei Gutscheine im Wert von je 30 Franken für den NZZ-Shop**.

Das Ausfüllen dauert nur rund 5 Minuten.

#### Section A: Gateway

**1. Haben Sie schon einmal Mikrozahlungen getätigt?**

((     )) Ja    ((     )) Nein

*Falls Frage 1 «ja» → Frage 2, falls Frage 1 «nein» → Frage 3*

**2. Haben Sie bereits Mikrozahlungen für journalistische Inhalte getätigt?**

((     )) Ja    ((     )) Nein

**3. Haben Sie in den letzten 6 Monaten digitale Zeitungsinhalte gelesen?**

((     )) Ja    ((     )) Nein

**4. Haben Sie in den letzten 6 Monaten für digitale Zeitungsinhalte bezahlt?**

((     )) Ja    ((     )) Nein

#### Inwiefern stimmen Sie den folgenden Aussagen zu:

Section B: Perceived Usefulness (PUN)			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
PUN_1	5	Mikrozahlungen sind eine nützliche Zahlungsform für digitale Zeitungsinhalte.	1	2	3	4	5
PUN_2	6	Mikrozahlungen machen es mir einfach, digitale Zeitungsinhalte zu lesen.	1	2	3	4	5
PUN_3	7	Mikrozahlungen animieren mich dazu, eher für digitale Zeitungsinhalte zu zahlen.	1	2	3	4	5

<b>Section C: Perceived Ease of Use (PEU)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
PEU_1	8	Es ist einfach zu erlernen, wie man Mikrozahlungen ausführt.	1	2	3	4	5
PEU_2	9	Mikrozahlungen ermöglichen es mir, digitale Zeitungsinhalte flexibel zu lesen.	1	2	3	4	5
PEU_3	10	Mikrozahlungen sind einfach zu benutzen.	1	2	3	4	5
<b>Section D: Attitude towards Use (ATT)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
ATT_1	11	Mir gefällt die Idee, einen Betrag für einen Zeitungsartikel zu bezahlen.	1	2	3	4	5
ATT_2	12	Ich kann mir gut vorstellen, Zeitungsartikel mit Mikrozahlungen zu kaufen.	1	2	3	4	5
ATT_3	13	Ich finde Mikrozahlungen für Zeitungsartikel nützlich.	1	2	3	4	5
<b>Section E: Intention to Use (INT)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
INT_1	14	Wenn ich die Gelegenheit erhalte, werde ich für einzelne digitale Zeitungsinhalte bezahlen.	1	2	3	4	5
INT_2	15	Mit Mikrozahlungen werde ich digitale Zeitungsinhalte häufiger lesen.	1	2	3	4	5
INT_3	16	Ich werde von Mikrozahlungen für digitale Zeitungsinhalte wahrscheinlich in den nächsten 6 Monaten Gebrauch machen.	1	2	3	4	5
INT_4	17	In 5 Jahren werde ich wahrscheinlich Mikrozahlungen für digitale Zeitungsinhalte nutzen.	1	2	3	4	5

<b>Section F: Mobility (MOB)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
MOB_1	18	Mikrozahlungen für digitale Zeitungsinhalte sind praktisch, weil ich sie zu jeder Zeit nutzen kann.	1	2	3	4	5
MOB_2	19	Mikrozahlungen für digitale Zeitungsinhalte sind praktisch, weil ich sie an jedem Ort nutzen kann.	1	2	3	4	5
MOB_3	20	Mikrozahlungen für digitale Zeitungsinhalte kann ich auch während meiner Ferien nutzen.	1	2	3	4	5
<b>Section G: Compatibility (COM)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
COM_1	21	Mikrozahlungen für digitale Zeitungsinhalte sind mit bestehenden Zahlungsmethoden, z.B. Visa, MasterCard, PayPal, kompatibel.	1	2	3	4	5
COM_2	22	Mikrozahlungen für digitale Zeitungsinhalte passen zu meinem Konsum- und Online-Shopping-Verhalten.	1	2	3	4	5
COM_3	23	Das Bezahlen für einzelne digitale Zeitungsinhalte passt zu meinem Lebensstil.	1	2	3	4	5
<b>Section H: Convenience (CON)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
CON_1	24	Mikrozahlungen für digitale Zeitungsinhalte sind praktisch, weil ich sie in verschiedenen Situationen tätigen kann.	1	2	3	4	5
CON_2	25	Mikrozahlungen sind vorteilhaft, weil ich nur für Zeitungsinhalte zahle, die ich wirklich lese.	1	2	3	4	5
CON_3	26	Mikrozahlungen ermöglichen es mir, auf bequeme und schnelle	1	2	3	4	5

		Art digitale Zeitungsinhalte zu lesen.					
<b>Section I: Later Payment (LPM)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
LPM_1	27	Es stört mich, wenn mein Lesefluss durch einen Bezahlprozess unterbrochen wird.	1	2	3	4	5
LPM_2	28	Ich möchte Zeitungsartikel zuerst lesen und erst danach bezahlen.	1	2	3	4	5
LPM_3	29	Ich möchte am Monatsende eine Übersicht über meine gelesenen Artikel erhalten.	1	2	3	4	5
<b>Section J: Single Payment Platform (SPP)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
SPP_1	30	Ich möchte für digitale Zeitungsinhalte mit einem Klick bezahlen.	1	2	3	4	5
SPP_2	31	Ich möchte Kreditkartendaten nur einmal hinterlegen müssen und spätere Dateneingaben vermeiden.	1	2	3	4	5
SPP_3	32	Ich hätte am liebsten eine einheitliche Zahlungsplattform für alle digitalen Zeitungsinhalte.	1	2	3	4	5

Und nun interessiert uns, wie Ihre Einstellung zu neuen Technologien ist.

<b>Section K: Innovativeness (INN)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
INN_1	33	Ich bin besser über neue Technologien informiert als andere Personen.	1	2	3	4	5
INN_2	34	Ich gehöre gerne zu den Ersten, die eine neue Technologie ausprobieren.	1	2	3	4	5
INN_3	35	Ich empfehle anderen Personen gerne neue Technologien.	1	2	3	4	5

<b>Section L: Knowledge (KNO)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
KNO_1	36	Ich kaufe gerne online Produkte, die wenig kosten.	1	2	3	4	5
KNO_2	37	Ich bin bereit, Kreditkarten, PayPal oder Apple Pay für Mikrozahlungen zu nutzen.	1	2	3	4	5
KNO_3	38	Der Umgang mit Mikrozahlungen für digitale Zeitungsinhalte wird mir leicht fallen.	1	2	3	4	5
<b>Section M: Perceived Trust (PTR)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
PTR_1	39	Mikrozahlungen sind nützlich, um digitale Zeitungsinhalte zu lesen.	1	2	3	4	5
PTR_2	40	Mikrozahlungen gehören zu den vertrauenswürdigen Zahlungsmethoden.	1	2	3	4	5
PTR_3	41	Ich vertraue Medien, die Mikrozahlungen anbieten.	1	2	3	4	5
PTR_4	42	Anbieter von Mikrozahlungen unterbreiten mir übersichtliche Angebote.	1	2	3	4	5
<b>Section N: Perceived Content Relevance (PCR)</b>			Stimme überhaupt nicht zu	Stimme nicht zu	Stimme teilweise zu	Stimme zu	Stimme völlig zu
PCR_1	43	Ich möchte für Artikel zahlen, die für mich relevant sind.	1	2	3	4	5
PCR_2	44	Mikrozahlungen werden mir helfen, die Artikel zu lesen, die mir wichtig sind.	1	2	3	4	5
PCR_3	45	Ich bin bereit, für Artikel mit Inhalten zu zahlen, die für mich besonders wertvoll sind.	1	2	3	4	5

## Section O: Personal Details

Zum Schluss interessieren uns noch einige Angaben zu Ihrer Person:

### 46. Ihr Geschlecht:

- Männlich  
 Weiblich

### 47. Ihr Alter:

- 18-30  
 31-40  
 41-50  
 51-60  
 61-70  
 71+

### 48. Ihr monatliches Brutto-Einkommen (CHF):

- bis 4'000  
 4'001 – 6'000  
 6'001 – 8'000  
 8'001 – 10'000  
 10'001 – 12'000  
 12'001 und mehr  
 Keine Angabe

## Section P: Ende & Teilnahme am Wettbewerb

Herzlichen Dank für Ihre Teilnahme.

Möchten Sie jetzt noch die Chance nutzen, einen Gutschein zu gewinnen? Dann tragen Sie hier Ihre E-Mail-Adresse ein:

((E-Mail-Adresse eintragen))      mit Button ((Absenden)) → Section Q  
Nein danke      mit Button ((Schliessen)) → Fenster zu

## Section Q: Viel Erfolg!

Wir wünschen Ihnen viel Glück!

Die Auslosung findet am 15. Januar 2018 statt. Die Gewinner werden per E-Mail benachrichtigt.

Freundliche Grüsse

**Ihre «Neue Zürcher Zeitung»**



## **Appendix C.4: Email English version**

**Your opinion is needed: Survey with chance of winning**

# Neue Zürcher Zeitung

Dear participant,

90 Rappen for a single article instead of 5 Francs for a newspaper? It is quite possible that paying a small sum for individual newspaper articles will soon become a reality. For example, we already know these so-called online micropayments from downloading pieces of music.

What do you think about this trend? Your opinion as reader is important to us. We therefore invite you to participate in a survey on online micropayments.

((Click here to participate))

As a thank you, we are giving away three vouchers to the NZZ Shop worth 30 Francs among all participants.

We look forward to your opinion and would like to thank you for your participation.

**Your «Neue Zürcher Zeitung»**

## Appendix C.5: Web survey English version

### Survey regarding the adoption of micropayments for online news in Switzerland

Well-known examples of micropayments include purchasing a song on iTunes or an app for one's smartphone. For newspapers, this method of payment could be used in the future for the purchase of individual articles.

Your opinion on this topic will help us to better understand the acceptance of online micropayments for news. Among all participants in the survey, we are giving away three vouchers worth 30 Francs each for the NZZ Shop.

The completion takes only about 5 minutes.

#### Section A: Gateway

**1. Have you ever used micropayments?**

((     )) Yes ((     )) No

*If question 1 is "yes" → question 2, if question 1 is "no" → question 3*

**2. Have you already used micropayments for journalistic content?**

((     )) Yes ((     )) No

**3. Have you read digital newspaper content in the last 6 months?**

((     )) Yes ((     )) No

**4. Have you paid for digital newspaper content in the last 6 months?**

((     )) Yes ((     )) No

Do you agree with the following statements?

Section B: Perceived Usefulness (PUN)			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
PUN_1	5	Micropayments are a useful way to pay for online news.	1	2	3	4	5
PUN_2	6	Micropayments for online news are easy to use.	1	2	3	4	5
PUN_3	7	Using micropayments would enable me to pay for online news.	1	2	3	4	5

<b>Section C: Perceived Ease of Use (PEU)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
PEU_1	8	Learning to use micropayments for online news is easy.	1	2	3	4	5
PEU_2	9	I would find micropayments for online news to be flexible to interact with.	1	2	3	4	5
PEU_3	10	Micropayments for online news are easy to use.	1	2	3	4	5
<b>Section D: Attitude towards Use (ATT)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
ATT_1	11	I like the idea of micropayments for online news.	1	2	3	4	5
ATT_2	12	I would enjoy purchasing online news through micropayments.	1	2	3	4	5
ATT_3	13	Micropayments for online news are interesting.	1	2	3	4	5
<b>Section E: Intention to Use (INT)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
INT_1	14	Given the opportunity, I would use micropayments for online news.	1	2	3	4	5
INT_2	15	With micropayments, I would access online news more often.	1	2	3	4	5
INT_3	16	I am likely to use micropayments for online news in the next six months.	1	2	3	4	5
INT_4	17	Five years from now, I intend to use micropayments for online news.	1	2	3	4	5
<b>Section F: Mobility (MOB)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
MOB_1	18	I can use micropayments for online news independent of time.	1	2	3	4	5
MOB_2	19	I can use micropayments for online news independent of place.	1	2	3	4	5
MOB_3	20	I can use micropayments for online news anytime while travelling.	1	2	3	4	5
<b>Section G: Compatibility (COM)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
COM_1	21	I believe micropayments are compatible with existing payment technology, for example Visa, MasterCard, PayPal.	1	2	3	4	5
COM_2	22	I believe micropayments are compatible with my consumption and online shopping behaviour.	1	2	3	4	5
COM_3	23	I believe micropayments are compatible with my lifestyle.	1	2	3	4	5

We are now interested in your attitude towards new technologies.

<b>Section H: Convenience (CON)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
CON_1	24	Micropayments are convenient, because I can access online news at any time.	1	2	3	4	5
CON_2	25	Micropayments are convenient because I can access online news anywhere.	1	2	3	4	5
CON_3	26	Micropayments are convenient because they are not complex.	1	2	3	4	5
<b>Section I: Later Payment (LPM)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
LPM_1	27	It bothers me when my reading flow is interrupted by a payment process.	1	2	3	4	5
LPM_2	28	I want to read newspaper articles first and pay later.	1	2	3	4	5
LPM_3	29	I would like to receive an overview of my articles read at the end of the month.	1	2	3	4	5
<b>Section J: Single Payment Platform (SPP)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
SPP_1	30	I want to pay for digital newspaper content with one click.	1	2	3	4	5
SPP_2	31	I would like to deposit credit card data only once and avoid later data entry.	1	2	3	4	5
SPP_3	32	I would like to have a single payment platform for all digital newspaper content.	1	2	3	4	5
<b>Section K: Innovativeness (INN)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
INN_1	33	I know more about new technologies before other people do.	1	2	3	4	5
INN_2	34	I am usually among the first to try new technologies.	1	2	3	4	5
INN_3	35	I know more about new technologies other people do.	1	2	3	4	5

<b>Section L: Knowledge (KNO)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
KNO_1	36	I enjoy purchasing products of small amounts online.	1	2	3	4	5
KNO_2	37	I use credit cards, PayPal or Apple Pay for micropayments for online news.	1	2	3	4	5
KNO_3	38	I would be confident about using micropayments for online news.	1	2	3	4	5
<b>Section M: Perceived Trust (PTR)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
PTR_1	39	Micropayments are useful for reading digital newspaper content.	1	2	3	4	5
PTR_2	40	Micro payments are among the most trusted payment methods.	1	2	3	4	5
PTR_3	41	I trust media that offer micropayments.	1	2	3	4	5
PTR_4	42	Providers of micropayments provide me with clear offers.	1	2	3	4	5
<b>Section N: Perceived Content Relevance (PCR)</b>			Strongly disagree	Disagree	Partly agree	Agree	Strongly agree
PCR_1	43	I would like to pay for articles that are relevant to me.	1	2	3	4	5
PCR_2	44	Micropayments will help me to read the articles that are important to me.	1	2	3	4	5
PCR_3	45	I am ready to pay for content articles that are especially valuable to me.	1	2	3	4	5

### Section O: Personal Details

Finally, we are interested in some information about you:

#### 46. Your Gender:

((     )) Male

((     )) Female

#### 47. Your Age:

((     )) 18-30

((     )) 31-40

((     )) 41-50

((     )) 51-60

((     )) 61-70

((     )) 71+

**48. Your monthly gross income (CHF):**

- ((     )) up to 4,000
- ((     )) 4,001 – 6,000
- ((     )) 6,001 – 8,000
- ((     )) 8,001 – 10,000
- ((     )) 10,001 – 12,000
- ((     )) 12,001 and above
- ((     )) No information

**Section P: Thank you and participation in competition**

Thank you very much for your participation.

Would you still like to take the chance to win a voucher? Please enter your email address below:

((enter email address))     *button ((Send)) → Section Q*  
No, thank you                 *button ((Send)) → Close window*

**Section Q: Good luck!**

We wish you good luck!

The draw will take place on 15<sup>th</sup> January 2018. The winners will be informed via email.

With kind regards

**Your «Neue Zürcher Zeitung»**

# APPENDIX D: ACCESS AND CONFIDENTIALITY AGREEMENT

## Access and Confidentiality Agreement

This Access and Confidentiality Agreement ("Agreement") is made

between Manja Pfeiffer, Witikonstrasse 341, 8053 Zürich, Switzerland ("Student"),

enrolled at Edinburgh Business School, Heriot-Watt University, Edinburgh EH14 4AS, UK ("University")

and NZZ AG, Falkenstrasse 11, 8021 Zürich, Switzerland ("NZZ")

regarding the students DBA research program about "Newspaper Micropayments - Consumer acceptance for News in Switzerland" at the university. The agreement sets out accessibility and confidentiality information that the student requests from NZZ for conducting her research study.

### §1 Purpose of study

This study aims at identifying factors influencing the consumer acceptance of online micropayments in the newspaper industry in Switzerland. Drawing upon the technology acceptance model (TAM), the researcher will carry out interviews with industry experts to investigate potential factors that determine consumers' adoption towards micropayments for online content, which are then empirically tested in a large email survey among NZZ.ch newsreaders.

### §2 Data required

The student identified the following accessibility classification for gathering research data:

- (a) Conducting interviews with experts from the following industries: 1) news, 2) micropayment services, 3) consumer behaviour,
- (b) Conducting an email survey among NZZ.ch users,
- (c) Access to relevant newspaper circulation databases.

### §3 Data provided by NZZ

NZZ assures accessibility to the following data needed by the student as outlined in §2:

- (a) Provide access to one expert among NZZ management members for conducting the interview. The person to be interviewed will be Steven Neubauer, Anita Zielina, Martin Jungfer or Marlene Schara; the exact person will be announced during Q2 2016. Information on the perception of consumers' perspective about micropayments will be collected. The semi-structured interview will be held in English, will take place during Q3/Q4 2016 and will last for 1-2 hours.
- (b) Provide access to conduct an email survey among NZZ.ch users. Exact panel characteristics on the users to be surveyed will be defined during the research set-up in Q2/Q3 2017. The questionnaire, which will be mailed out in the name of NZZ, will be crafted during Q2 2017; questions in German and form of the email survey will be agreed upon between the student and NZZ before the mail out.
- (c) Provide access to newspaper circulation and statistics databases (will be defined later).

### §4 Confidentiality Agreement

The student will assure that all information collected in (a), (b) and (c) will be treated with confidentiality and that information gathered in (b) and resulting findings will be treated with complete anonymity. Further, the student assures that no part of the work will be published without the agreement of NZZ. NZZ will be allowed to view and modify any part of the information relating to their company in the final thesis. Publication of the thesis requires explicit permission of NZZ management.

ACCEPTED BY:

NZZ

29/04/2016

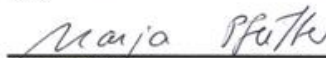
Date

  
Steven Neubauer, Head of Marketing

STUDENT

29/4/2016

Date

  
Manja Pfeiffer

## APPENDIX E: TRANSCRIPTION OF PILOT INTERVIEWS

**Table E.1: Transcription of pilot interview 1**

Construct	Question (Q)	Answer (A)	Comment (C)	Code
Intro	<b>Q1</b>	<b>In 2-3 sentences, could you please tell me what your role is related to newspaper strategies and business models?</b>		
	A1	<i>I am a product manager at Neue Zürcher Zeitung. My role in the strategy is that I am a part of overall strategies of the products that I develop and help improve and that are coordinated with the overall strategy. Anticipating what user needs, how user behaviour changes, where news consumption is a core part.</i>		
	<b>Q2</b>	<b>Are you involved in the strategy management process?</b>		
	A2	<i>Well, more in executing the strategy and breaking the overall strategy down to particular products.</i>		
Online News	<b>Q3</b>	<b>What is your opinion about digital news in Switzerland?</b>		
	A3	<i>Well, what's always been surprising to me, especially after working in Germany and in the US for a while, is how we are active in this. Switzerland is a very small market, it's a super interesting market for newspapers. Since it's very small, we have one huge advantage – we share language with that huge country right next to us and this is what we are trying to do right now – we attempt to get into that other market, i.e. Germany and Austria. I don't know why other newspapers or media in Switzerland don't want to try to penetrate other markets right next to us in order to grow, especially when we are in such a crisis phase, when we all try to grow and make money. We are sort of desperate; I don't know why ... I find that this is a very unique thing for Swiss and most of the European markets. What's special in Switzerland is that there is a little competition. Basically, it's three big news houses and the need for innovation is not as big as it is in other countries, like the US, where there is a literary war going on every day.</i>		
	<b>Q4</b>	<b>Why do NZZ's competitors operate outside Switzerland?</b>		
	A4	<i>I think that other publishers in Switzerland decided to make money with things other than news, like e-commerce and events and that kind of things and are taking that route in order to grow. Basically, they</i>		



*ripped journalism off as a valuable, good business, so they keep that going but mostly are occupied with other stuff. Neue Zürcher Zeitung has this completely other strategy that is routed in journalism and what we've done in the last hundreds of years, which is a pretty the same journalism. So if that is your strategy, you have to leave Switzerland. There is limited growth that you can achieve in Switzerland, so you've got to go to Germany and Austria.*

Business  
Models

**Q5 Moving to consumer perspectives of digital news, what are factors that influence consumers' attitude to digital news?**

*A5 I think it's what still plays a huge role, which may sound a little obvious, is the internet, which gives us access to so many different sources and that media houses, like we are, underestimate how big of a change that is for a consumer. In order to make you come to my news app or website or other news products, you have this insane amount of competition. As a user today, when you are on Twitter or Facebook and Google, you encounter literally dozens of news sources every day, so I think it is crucial to build very, very good services and very, very neat content in order to draw people in to your product, have them contact and most importantly have them pay you money, like a subscription fee or even micropayments. There's a wide range of sources, so there is also a wide range of micropayments, which is so interesting. It's a huge field for both producers of high-quality journalism, who want to have their stuff paid for and for users who want to read great content or great journalism but they don't have a way to pay. That appreciates that they have a breath, like a wide range of sources. So, the situation right now is that you go online, you bump into one paywall after the next or cheaply-produced content with a lot of 'buts', both of which are not a good user experience and publishing houses are not trying to solve this for consumers. You have two problems: you have huge amounts of what you could read, a huge number of articles every day, so it is really hard to find the right one, and that is a journalistic task to lead you to the right content, and you have only the option to have a huge number of subscriptions, all of which are sort*

*of expensive, so it's not like you have five, six or seven subscriptions, but most likely you have one and then you bump into a lot of other stuff that you'd like to read. Right now there is no solution to monetise that, besides ads.*

**Q6 Do you think that consumer spending has changed over recent years? What might have caused such a change?**

*A6 I don't really want to talk about this, since I do not know much about this. I see that there is a change of behaviour in terms of buying content online. If you get great service and if you get great content, I feel like there is a lot of more acceptance towards such systems than a few years ago. How does this translate into money? I think people must spend more, on music for example, than they used to, e.g. Spotify subscription, which is \$120 per year or even more. It is a lot of money. I don't think that used to be the case.*

**Q7 What do you think are the forthcoming changes in business models for digital news?**

*A7 I feel like a subscription is still the best. For me, if I decided I wanted to commit to NZZ or the New York Times or Austrian or the ProPost, it's great to have the option of subscription. You pay for this service to get timely updates of what happens around the world plus great investigations and great analyses, so that means a lot of sense and I think that it will survive. I can't imagine another world, that is not the case. That is a traditional way of collecting money. That is what we have always done. I think's that is going to continue. What happens with all the other services, not the source you go to every day? If, for example, the Financial Times today has a great investigation that is relevant to my job, my life, whatever and I want to read it, what do I do? There's literally no way to get there, unless I am okay with getting a trial subscription, which then costs or I create an account, then another account, which means a lot of emails from them and I don't know I don't want a subscription. That is where micropayments come in, I think and they are the only way I can imagine paying for this.*

Micro-  
payments

**Q8 What types of micropayment do you know?**

A8 *It's an interesting question. I know there are very small amount for one article – pay per article, micropayments for limited time, where you pay e.g. € 2.00 and you get access for a day or maybe for a week. I think that's it. There are other micropayments, where you put a bunch of money into a sort of digital wallet and then you automatically pay some amount of money, depending on what you read or what you consume.*

**Q9 From your point of view, how would you define a micropayment for digital news?**

A9 *I've thought about this recently when we talked and the only definition I could come up with is that you take the payment and you attach it to another number, for example a subscription. I think you can only call it a micropayment in comparison to another payment. So, the subscription is the main model and the micropayment is like a day or a week pass or a pay-per-article model. I am not even sure if I consider a € 10.00 day pass a micropayment or a regular payment. It's really hard to define.*

**Q10 How do you estimate the consumer demand for micropayments for digital news in Switzerland?**

A10 *I don't think there is any demand for micropayments. I don't think there is any demand for some sort of payment model in general from consumers. I think there's a huge demand for a service of a kind to give me access to different new sources that are journalistically relevant to me, for example if I, as a journalist collect a certain number of masteries for you and for a lot of different source, I think that can be very popular, because people know they can expand their horizons, they want to read the best every source and they are okay about paying for it. I think you could sell a subscription on that as well, like you pay \$10.00 and you can read our selection. I think micropayments is one of the ways that I think - especially when you could do it - could be very successful.*

**Q11 Do you know any examples of micropayments for digital news in Switzerland?**

A11 *I only know Blendle, LaterPay, which both work in Switzerland and then there is another company called source point, which I also think works in*

Switzerland but I don't think they focus on micropayments or do it at all. The most consequential execution of the model is Blendle, I think. LaterPay focuses more on subscriptions, like week passes and actual subscriptions.

Factor  
identi-  
fication

**Q12 What factors accelerate the use of micropayments?**

A12 Well, I think the publishers or media companies need to decide whether they want to solve a problem for the user or they just want to sell their stuff. I think you could build a highly journalistic product that I think should be done by media companies to provide a stream with content, but you can only offer this, if you also solve that payment problem. Curation of different sources is a sort of thing that media try to do more and more and this started a while ago, but this always has the same problem. They cannot recommend certain stories or decide not to recommend certain stories because they are behind a paywall. They re-encounter this problem. This just shows how tricky this is and how much of a problem this is for users. And for some reason most media companies haven't decided or have decided not to focus on the decision. The best choice are the platforms that push free content, e.g. Facebook and Twitter, which could have but didn't solve the payment issue. They are now going in that direction. Facebook announced, launched something in this direction. I think media companies should get more active in this, because you want to have curation being journalistic and not an engagement drill.

**Q13 What elements would encourage users to use micropayment services?**

A13 *The ease of use of such solution right there, let's say NZZ offers a micropayment solution. The ease of use of this option is really important.* However, if it comes from NZZ that is probably not the best for the users. *Let's say I am a Thurgauer Zeitung subscriber or a Süddeutsche subscriber and I come across this great story which happens to be on NZZ. If I can pay with my Thurgauer Zeitung account I think I would pay quickly, if I could pay with my NZZ account I think that would make my think three or four times, if I could pay with a platform account that would be great. If I could pay with an account at SourcePoint or Blendle or LaterPay, which is*

Code:  
Ease of Use

Code:  
Universal  
Payment  
Platform

really easy to use that - from my point of view - would be the easiest way to commit user to actually paying for stuff. I also think the fairness of communication is really important. There's a lot of trickery happening right now, like LaterPay says: 'Ohh you don't have to pay', until you bump into this artificial barrier of € 5.00, I think and others say that you don't have to pay but you have to provide your email. There's a lot of trickery – just tell me your price, tell me how to pay for it in easy way and I think a lot of people would take advantage of that. If you focus on these people who are willing to pay, you can grow from there, but first you have to get them. Maybe I am super naive about this stuff, but that's what I try.

Code:

Fair

Communi-  
cation

**Q14 Academic literature argues that the following factors influence consumer acceptance of micropayments: mobility, compatibility, convenience, innovativeness and knowledge. Why is one more important than the others?**

A14 *It's interesting. You have to know about this in order* Code:

*to use it. I think the ease of use is extremely, extremely important, but I feel like I think I need to think about this.* **Ease of Use**

**Q15 What factors discourage users from the use of micropayments for digital news?**

A15 *I think it's discouraging when the content is not* Code:

*good enough, not necessarily when it's bad content, but it's not unique enough that I am willing to pay for it.* **Unique Value**

*I may expect to get it for free around the corner. I think that's a big thing. You've gotta have a good brand. Another is the hassle. I really love the micropayment model, but it's still a little stressful, because you have to decide every single time - even though it is a really tiny amount - you make the purchase decision and it stresses you out. I think that one new. You know it's too much of a hassle, I don't wanna exaggerate, so let's come back to the content.*

Code:

*You make really unique content. People go through all kinds of groups to access it. If you look at what users today have to endeavour in order to read a story, it's sometimes outrageous, because newspaper websites are sometimes so comically bad, because they put in pup ups, insane ads, they load slowly, which is not that good and people still do it. That just tells you how valuable content is to* **Unique Value**

**them.** *It's a positive spin. That should encourage media houses to make better news products and just be brave enough to ask for money in order to create a better product.*

**Q16 What other influencing conditions prompt consumers to use micropayments for online news?**

A16 *I think that for any media company it's probably best if they focus on their subscription business first, if they have to focus on one thing, and I think most do, i.e. improve their brand, improve their products, improve their payment options, but stick to subscriptions and then expand to micropayments. There's more money from subscriptions, but it's dangerous that most likely others would take the other business from them.*

**Q17 When do you think micropayments will take off for online news?**

A17 *Well, it's hard to say. Maybe not ever. Maybe someone comes up with a better solution for this problem. I think this problem will have to be solved at some point. I think micropayments are great way to do that. I am enthusiast of the micropayment platforms. I think that was a great start that could have been improved massively and then even be more successful, but maybe there is another, better way. But I think the problem of having a lot of sources and having a lot of interests will need to be solved, because what we have right now is not sustainable. I can't tell when it is gonna take off or whether it will ever take off. I think that if there is not a better solution, I will say something like five years. I think it's not gonna be a quick process.*

Barriers **Q18 What are the barriers to implementing micropayments in a newspaper company? How do you address these?**

A18 *Reach. Whenever you ask for money for stuff, you've gonna give up reach. So, some of the most successful subscription models in news are metered models or paypals. Both of them don't need micropayments. In the Financial Times, either you pay \$50.00 per month or you don't read it. The New York Times has a global reach and gives a lot of stuff for free, monetises this from ads and slowly builds its subscription business. I think that's the biggest barrier of which they are afraid, that they will give*

*up reach when they ask for money for subscriptions or micropayments. And it's probably true.*

**Q19 How do you define reach?**

A19 *The number of people you get your product in front of. So, it's gonna be smaller if you ask for money.*

**Q20 What kind of conflicts, if any, has your institution faced with micropayments? If yes, why do these occur?**

A20 *The focus on users I think that is what newspapers still have to learn. If you look at the biggest problems of the users right now, I think it's payment. In focus groups, people bring up payments themselves. They're unhappy about that, they are unhappy about the collection, click bait, they are unhappy about a lot of different problems that we are unhappy about. But media companies lack a focus on the user, which keeps them from realising about it. Most of the problems that you have in journalism today are that it's all about clicks and it's all about reach. I think that every problem we have, from fake news to underfunded newsrooms, it's because of click bait. Underfunded newsrooms because the output has to be huge, the amount of content you have to produce is insane, so it's gonna get worse, and the fake news is caused by the fact that we do not have control over distribution at all, as well as that Facebook and Twitter do not discriminate on the quality of the content. And this is a real problem for the users, I think. But Facebook is not probably not gonna solve it.*

Sensitive  
issue

**Q21 What country-specific factors of micropayments for online news exist in Switzerland, for example compared to Germany, the UK or the US?**

A21 *I think it's the online payment. The readiness to pay for stuff online is different in different countries. From my experience, in Poland for example, which is really close to here, which is bigger and people there are sort of wealthy, they pay for stuff online all the time. Whereas in Switzerland there still a few steps to go. Same in Germany. I think that is the difference. In the end, you need to have a great product. People pay for Spotify here as well. I don't think it should keep us from building this type of things.*

**Q22 Did I understand you correctly that consumers do not buy so much online in Switzerland compared to other countries?**

A22 *I think it's harder to buy stuff here from the services that you can use, like the different payment methods, than definitely compared to Germany. In Poland, people pay for everything online, even for stuff to their government and they do everything online. This is not a thing that is as advanced in Switzerland.*

Other

**Q23 Do you have any other thoughts about the topic of micropayments?**

*I know I have mentioned it before, but I think it will happen on a platform. Because micropayments have to be so easy, they can't be built just for one media company or one media website.*

Code:

*Universal*

*Payment*

*Platform*

Code:

*Ease of Use*



**Table E.2: Transcription of pilot interview 2**

Construct		Question (Q)	Answer (A)	Comment (C)	Code
Intro	<b>Q1</b>	<b>In 2-3 sentences, could you please tell me what is your role related to newspaper strategies and business models?</b>			
	A1		<i>I will do it with pleasure. Thank you very much for inviting me. I feel honoured. I am working at NZZ and I am responsible for one of the online channels, one of the very important channels, which is the paywall, meaning pay gate by NZZ. I am responsible for building a strategy of this channel and for developing it on the site.</i>		
Online News	<b>Q2</b>	<b>Are you involved in the strategy management process?</b>			
	A2		<i>Yes, that is correct.</i>		
	<b>Q3</b>	<b>What is your opinion on digital news in Switzerland?</b>			
	A3		<i>What I know succeeds is that news industry moved a lot towards digitalisation. It means a lot of huge steps. Not just that. It transformed. It's a big deal that we have a lot of big players on the market, who push the industry towards digitalisation. Unfortunately, as with all other segments in Switzerland, it is not moving as fast as they're doing in e.g. the UK or the US. In any other field or industry, Switzerland is pretty much behind, in the sense that we now see the development that other countries like the UK or the US had seen a couple of years ago. So we are really much behind.</i>		
	<b>Q4</b>	<b>Have you also seen these trends in consumer behaviour?</b>			
	A4		<i>Yes, exactly. It means, the things that were starting three years ago abroad are coming today in Switzerland to be introduced for the first time, so it's not like we have already a couple of years' experience in working with these things. One of the examples of that would be the metric codes. They were a big deal couple of years ago. In Switzerland, people started using them four years after they were used completely normally in other parts of the world and they never managed to fight their way through. What's seen is that user behaviour in Switzerland is completely different than in other parts of Europe and the world.</i>		
Business Models	<b>Q5</b>	<b>Do you think that Switzerland is behind other countries?</b>			
	A5		<i>Well, I wouldn't say it's behind. I think living standard are so high that it's sort of compensated. You can't compare it to Southern Asia or Eastern</i>		

*Europe, where no one pays anything for the news. On the other hand, it's not that digital news is developed as much as in other countries.*

**Q6 Do you think that consumer spending has changed over the past years?**

*A6 I do prefer to describe it as willingness to pay, as I believe is the place where the biggest breakthrough actually happened. Also, I do remember six years ago, when we said we have to pay for the content on the internet and there was an absolutely negative stance towards this. In the meantime, this willingness has changed. People got the idea that they have to pay something for the things they use and read. Especially for the news that are not basic news, like leading pop stars events and such things. In the sense that, when quality information and quality content is available, there is a willingness to pay, it's questioned anymore whether it should be paid or not. In Germany, I do believe, because we have no information on Switzerland, we see a drastic change in the last years. I can't be that sure to say this is because the people had a better standard in the meantime or paid content model developed, so more people are willing to pay and give their money away, but we can state it that last years have been a huge change in the amount of paid content on the internet.*

**Q7 What factors have caused such change?**

*A7 There are several. At first, I'd say usability. The paying process became much more simplified. It is more approachable to people. I believe it's one thing, and the second thing is this breakthrough in thinking of people that you have to pay for quality content. They made a commitment when they did for the first time and they kept doing it further. This is the second thing and the third thing would be technology.*

**Q8 Have you experienced other changes in business models for newspapers, especially for online models?**

*A8 I see a huge change in taking models from other industries. In our business, it's a finium model, which definitely does not come from our industry. At this point, it's the most popular one in Europe. So in the sense of taking business models from other industries, it's like an igniter.*

- Micro-payments
- Q9 What types of micropayment for digital news do you know?**
- A9 *We know a couple of them. Content-related, so when one could pay for an article, one can pay for a series, one could pay for access to videos and articles. Then, we know time-related micropayments, so the thing that our competition introduced couple of weeks ago. That's a pass, daily payment or the things that we have seen in America, where we pay for an hour. It's terribly interesting but I think I have never seen it working in Europe.*
- Q10 Summarising what you've mentioned, how would you define micropayments in the context of online news?**
- A10 *This is the opposite to micropayment. This is something that has nothing to do with a form of relation between a company and a customer. It is something that is not as expensive a full subscription or a full relationship.*
- Q11 What do you mean by "it is not as expensive"? Can you explain this a little bit more, please?**
- A11 *In a usual subscription, one has a long-term relationship and it is pretty expensive if it comes to quality content. On the other hand, micropayment is a part of it, a part of this amount, since it is consumed not frequently or not regularly, thus it is not as expensive as a regular subscription.*
- Q12 In your opinion, what constitutes a micro transaction?**
- A12 *Well, it's too hard to say. I've seen different examples. We are talking about amounts from €2.00, €1.00, £1.00, €0.99 up to €10.00 and they were all working, but this is just an example. I'm going to say there is no upper limit.*
- Q13 Do you think there is demand for micropayments in the news industry?**
- A13 *Worldwide, yes, definitely yes. Reasons, my opinion? Access to time, which one can spend on reading, budgetting and such things. I could see that worldwide there is a lot of need for micropayments. On the contrary, in Switzerland I do believe it would offer a new market towards existing companies. I am not quite sure, because we hear about a lot of cannibalisation, so I am not quite sure it will really be happening soon. That is my opinion.*

Factor identi- fication	<p><b>Q14 From your point of view, what factors have a positive effect on consumers to use micropayments for online news?</b></p> <p>A14 <i>Okay, usability! I think it is a huge factor for introducing micropayment, because if you think of a buying process of a subscription that costs 700 francs, it can't be done in two seconds, because you have to invest time if you invest 700 francs for the majority of people. This process has to be very good, it can't be happening in two seconds. But if you're willing just to read something, just a particular thing, then you would be pretty much happy if you could make this transaction of a small amount of money very easily and very fast. So, I think usability, convenience would be the key word that would be bring us to micropayment.</i></p> <p><b>Q15 From your point of view what factors have a negative effect on consumers to use micropayments for online news?</b></p> <p>A15 <i>For the consumers? No. For the industry? Yes! For the consumers, there are not, in the sense that if they already decided not to need any subscription and they decided to go for a micropayment then I cannot see any bad factors not to use it. I would not be excellent for the industry, because then the industry would not be able to continue with this transformation, in the sense that micropayments could never come into the place of a full-time subscription.</i></p> <p><b>Q16 Academic literature argues that the following factors influence consumer acceptance of micropayments: mobility, compatibility, convenience, innovativeness and knowledge. Why is one more important than the others?</b></p> <p>A16 <i>I do believe that mobility would be the one that I put on top. We've learned in the last years that people are not connected to one place anymore, if I've understood mobility correctly. They can use micropayments on several different devices, so they don't have to be in the same one place to use it. I do believe it has come to the time we are living in, so I think this is the thing that would influence the most.</i></p> <p><b>Q17 What other influencing conditions prompt consumers to use micropayments for online news?</b></p> <p>A17 <i>I think the one we have not discussed that is a more relevant criterion is reachability. I do believe it's very important. This is a criterion that would play a big role in that. I do believe that big players in the</i></p>	<p>Code: <b>Usability</b></p> <p>Code: <b>Usability</b></p> <p>Code: <b>Ease of Use</b></p> <p>Code: <b>Convenience</b></p> <p>Code: <b>Mobility</b></p> <p>Code: <b>Reachability</b></p>
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*market won't allow it, because I do believe that in Switzerland we have this huge word, which is called cannibalisation and it is the big bad word that everybody is trying to run away from. I do believe there is a lot of field that through micropayment, through changing the business model into micropayment and not a full subscription would remind people that they don't have to have a full subscription. I do believe that the big players on the market will fight against it while they can and I see that they still have a lot of spirit in them, so they will do it for some time. I don't see micropayment soon in Switzerland.*

Barriers **Q18 What are barriers to implementing micropayments in a newspaper company? How do you address these?**

A18 *I think that Switzerland is pretty good in technology, Switzerland has a lot of know-how and a lot of experts in pushing this process. Actually, I just see this active fight against the main player on the market.*

**Q19 Have you seen any of these conflicts in your institution, maybe in the past?**

A19 *Yes, for example, NZZ still doesn't have e-purchasing implemented in the news app, it has some kind of e-purchasing per app, so it's stopping us from following our paid content strategy, in the sense that we are not closing the window for reading our content without paying. E-purchase has been discussed many times, so the pros and cons seem to have sense in terms of willing to share our money with Apple or other providers that we are going to do it without, but there are a lot of excuses, mainly because of the fear of cannibalisation.*

Other **Q20 Do you have any other thoughts about the topic of micropayments?**

A20 *Yes! I spent some time investigating the models that are based on time. As I mentioned before, there are day passes, hour passes or seven-week passes and similar models, I think that when we start to allow people to use something without limits for searching for some amount of time, then we need absolutely another approach, where they are using it for the amount of content that one is reading. In the sense that in some way I do not see how the*

*strategy with time can be combined with the quality content, because the quality content is in a packet or as a single product, but not consumed within a certain amount of time.*

## APPENDIX G: FACTOR ANALYSIS

Factor identified from Coding	New / Existing Factor	System / Individual Factor	Interview No.	Answer No.	Transcribed Wording from Audio Recording	Counts per Interview
			1	A10	▪ “A strong increase in mobile, so mobile digital offers.”	1
			2	A5	▪ “In the morning...likely read on their tablet”	
				A5	▪ “dinner time, they may more likely read news on their smartphones”	2
			3	A6	▪ “the huge part of micropayments has been made on mobiles”	
				A6	▪ “I think your products have to be very focused on mobiles”	
				A6	▪ “I think your payment process has to be focused on mobiles”	
				A6	▪ “I that [mobility] is a huge factor as well.”	
				A7	▪ “we see this with our smartphone on the couch”	
				A7	▪ “purchases are being made in the evening”	11
Mobility	Existing	System		A7	▪ “[purchases] are being made on mobile”	
				A8	▪ “very bad with... not mobile optimised”	
				A11	▪ “most of our mobile customer services and payment solutions are terrible”	
				A11	▪ “people are so used to having their mobile phones”	
				A11	▪ “it’s so intuitive where to click next, just swipe”	
			6	A2	▪ “access to everything everywhere. This is what they expect”	2
				A7	▪ “[access] from everywhere”	
			9	A2	▪ “people started talking about mobile payment solution”	
				A4	▪ “The best parallel form is the mobile solution for trains”	3
				A5	▪ “with your mobile phone”	
			2	A6	▪ “We may purchase things with one click”	
				A6	▪ “access to those services... is a change in customer behaviour”	2
			3	A3	▪ “customers... expect great user experience”	
				A5	▪ “the speed of transaction”	
Convenience	Existing	System		A5	▪ “the immediacy of the transaction”	7
				A6	▪ “speed factor”	
				A8	▪ “They really want it now”	
				A8	▪ “then they want to have access”	
				A8	▪ “fast”	
			4	A6	▪ “The problem is that digital excellence is not given”	7
				A9		

				A9	▪ “relates to micropayments it’s like a convenience factor”	
				A9	▪ “it has to be... and fast”	
				A12	▪ “access it with one click”	
				A15	▪ “it’s a convenience”	
				A16	▪ “Again, it’s a convenience thing”	
					▪ “the same user experience”	
		6		A2	▪ “quick, fast access to everything... this is what they expect”	
				A7	▪ “fast...to get access”	
				A7	▪ “deliver on it super quickly”	
				A7	▪ “you don’t want to get in users’ way”	
				A8	▪ “one click”	
				A8	▪ “within a second”	
				A14	▪ “quick and fast”	
				A14	▪ “wrap up in a better user experience”	
				A14	▪ “better user experience”	17
				A17	▪ “good experience is when you get it very quickly”	
				A17	▪ “you don’t want someone in between for too long”	
				A17	▪ “access the content quickly”	
				A17	▪ “by better user experience”	
				A17	▪ “first part of user experience”	
				A17	▪ “make it better and faster”	
				A22	▪ “[instant access] that’s very important”	
				A26	▪ “instant purchasing”	
		7		A11	▪ “never have credit card at hand... needs to be now”	
				A11	▪ “really bad, if I have to wait five to ten minutes”	
				A12	▪ “the factor ‘fast access’ ...is a hygiene factor”	
				A12	▪ “I expect... fast process... as a standard”	6
				A12	▪ “the factor... ‘convenience’ ...is a hygiene factor”	
				A12	▪ “I expect convenience... as a standard”	
		8		A9	▪ “Usability, yes, I agree”	2
				A13	▪ Readiness to use, yes”	
		5		A11	▪ “really important... start paying without getting your credit card right away”	
				A11	▪ “top-up before he could do anything. That doesn’t work at all.”	2
Later Payment	New	System	6	A7	▪ “buy-now-pay-later”	
				A7	▪ “you’ll pay later”	
				A7	▪ “just buy now and pay later”	
				A8	▪ “you just pay later”	
				A14	▪ “Okay, I will pay later”	8
				A14	▪ “intend to pay later”	
				A23	▪ “no upfront registration payment”	
				A23		



					<ul style="list-style-type: none"> <li>▪ “Pay only as you reach 5 Dollars or 5 Euros”</li> </ul>	
			7	A11	<ul style="list-style-type: none"> <li>▪ “you can read now...we are going to send you the bill afterwards”</li> </ul>	1
			9	A4	<ul style="list-style-type: none"> <li>▪ “Customers don’t like to pay before for news”</li> </ul>	
				A4	<ul style="list-style-type: none"> <li>▪ “just at the end of a month one transaction billed”</li> </ul>	
				A8	<ul style="list-style-type: none"> <li>▪ “People don’t like to pay before”</li> </ul>	5
				A8	<ul style="list-style-type: none"> <li>▪ “a service...” where you pay after you have used this information”</li> </ul>	
				A8	<ul style="list-style-type: none"> <li>▪ “it’s paid later, not before”</li> </ul>	
			2	A16	<ul style="list-style-type: none"> <li>▪ “the perfect scenario is the alliance between publishers”</li> </ul>	
				A16	<ul style="list-style-type: none"> <li>▪ “offer a common platform, where there would be one pot with contents”</li> </ul>	
				A16	<ul style="list-style-type: none"> <li>▪ “customers would search for...regardless of the publisher and paper”</li> </ul>	
				A16	<ul style="list-style-type: none"> <li>▪ “I think Switzerland would offer an attractive portfolio...on a table”</li> </ul>	7
				A16	<ul style="list-style-type: none"> <li>▪ “put all titles in one pot”</li> </ul>	
				A18	<ul style="list-style-type: none"> <li>▪ “to stick to a uniform payment system”</li> </ul>	
				A18	<ul style="list-style-type: none"> <li>▪ “combine them in one platform”</li> </ul>	
			3	A10	<ul style="list-style-type: none"> <li>▪ “If there is one solution that becomes industry standard”</li> </ul>	
				A10	<ul style="list-style-type: none"> <li>▪ “problem is if you need a separate account for every separate player”</li> </ul>	3
				A10	<ul style="list-style-type: none"> <li>▪ “with a button... would have been an industry solution for micropayment”</li> </ul>	
			4	A12	<ul style="list-style-type: none"> <li>▪ “have one single login or one single solution to pay for everything”</li> </ul>	
				A12	<ul style="list-style-type: none"> <li>▪ “to establish one single portal for all European needs”</li> </ul>	
				A12	<ul style="list-style-type: none"> <li>▪ “if every single operator offers all ways of payment”</li> </ul>	
				A12	<ul style="list-style-type: none"> <li>▪ “the user doesn’t have to open... a new account...would be willing to pay”</li> </ul>	7
				A12	<ul style="list-style-type: none"> <li>▪ “why not create one platform”</li> </ul>	
				A17	<ul style="list-style-type: none"> <li>▪ “registration and then you never ask to interact with the payment again”</li> </ul>	
				A17	<ul style="list-style-type: none"> <li>▪ “where you register the credit card once”</li> </ul>	
			6	A9	<ul style="list-style-type: none"> <li>▪ “not off their platform and on someone else’s”</li> </ul>	
				A10	<ul style="list-style-type: none"> <li>▪ “I’d be happy to support... having one platform”</li> </ul>	5
				A10	<ul style="list-style-type: none"> <li>▪ “basically, we’ve built it already”</li> </ul>	

				9	A11	▪ “It [one platform] would be super perfect”	
					A11	▪ “why don’t we try this [one platform]”	
					A3	▪ “Merchandisers are looking for a solution for the whole world”	
					A4	▪ “It’s not present in not one solution”	
					A6	▪ “I can go online... and I have one registration”	
					A7	▪ “That point [one platform] in my understanding is very, very important”	
					A7	▪ “It must go easier for different kinds of news and platforms”	
					A8	▪ “now it’s the problem that you have to make an own registration on every website”	10
					A10	▪ “Each bank pushes the same solution [in Sweden]”	
					A10	▪ “Each bank wants to go their own way, but we [in Switzerland] are too small for that”	
					A10	▪ “if we don’t have a European solution”	
					A10	▪ “In Sweden, they have one solution... people use”	
Innovativeness	Existing	Individual	1		A35	▪ “innovativeness is important”	1
			1		A32	▪ “knowledge, of course”	1
			2		A11	▪ “I also think an important point is also knowledge”	
					A11	▪ “people must know about them [the offers]”	2
Knowledge	Existing	Individual	5		A8	▪ “paying via micropayments... it needs some time to get the user to know, to notice”	1
			7		A12	▪ “knowledge is the most important factor”	1
			1		A11	▪ “we found that customers are ready to pay only when it is... transparent”	
					A11	▪ “in general, transparency significantly increased”	
					A13	▪ “Payment processes, payment methods... transparent... of course”	
					A15	▪ “This is also about trust, about payment methods, of course”	
Perceived Trust	New	Individual			A21	▪ “Quite clearly.... and added value”	12
					A21	▪ “without added value, you have no chance with the customer”	
					A22	▪ “Added value of the customer... may be very different”	
					A22	▪ “There are various possibilities of what added value is for the customer”	
					A26	▪ “usability with the meaning of added value for the customer”	
					A27		

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	A42	▪ “when you see what customers see as relevant”	
	A42	▪ “would mean an added value for the customer”	
		▪ “where micropayments bring a higher added value to our products”	
3	A6	▪ “Transparency can mean [examples follow]”	2
	A6	▪ “So transparency... That’s one big point.”	
4	A11	▪ “When you don’t get trust, you will not get digital interactions”	1
6	A7	▪ “trust-based system”	
	A7	▪ “it’s all about trust”	
	A7	▪ “a way of trusting”	
	A7	▪ “trusting users”	
	A7	▪ “monetising trust”	
	A9	▪ “they trust NZZ”	
	A9	▪ “transfer of trust”	
	A10	▪ “incredible essence... and trust”	
	A14	▪ “The first one is trusts”	14
	A14	▪ “Translating trust”	
	A14	▪ “will have to translate trust into the risk is no longer with the user”	
	A14	▪ “we talked about trust”	
	A14	▪ “the underlyings are trust”	
	A17	▪ “The second part is how transparent is the whole process”	
7	A7	▪ “there is something like a service in advance”	
	A7	▪ “we can offer an advance service, make people presents, just because”	
	A9	▪ “identification...binding relationship”	
	A9	▪ “if you feel that you belong to someone...”	
	A11	▪ “It’s a question, if I can trust the user”	
	A13	▪ “It’s to do with... identity [with the brand] and trust”	12
	A14	▪ “[As a customer] I ask myself “Is it worth it?””	
	A14	▪ “Shall I pay for this article? Has it a value to me?”	
	A13	▪ “I think it’s to do with value, with experience...”	
	A7	▪ It is about fairness”	
	A9	▪ “It is important not to hurt someone’s fairness’ preferences”	
	A9	▪ “It is a fair matter”	
8	A12	▪ “Trust, yes, sure”	1
9	A2	▪ “people always look for solutions that are not trusted enough”	3

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			A5	▪ “is the trust that this customer can pay and how you can control it”	
			A6	▪ “payment service... must be trusted”	
			A21	▪ “Quite clearly relevance”	
			A21	▪ “without... a true relevance... the customer won’t pay”	
			A24	▪ “Relevance is related to the need [of the customer]”	5
	1		A24	▪ “the relevance is when the customer’s need is satisfied”	
			A24	▪ “articles that are relevant for the customer... in terms of content or time”	
		3	A3	▪ “customers... expect personalised experiences”	
			A8	▪ “publishers are... relatively good in... content experiences for reading”	3
			A14	▪ “personalised weather information”	
	4		A6	▪ “news is more and more irrelevant for me. Good content is hard to find.”	
			A6	▪ “It’s quite hardtop maintain a good quality standard”	
			A9	▪ “it depends on the content...if you are willing to pay for digital news”	5
			A9	▪ “certain quality standard, I mean that’s the basis in the end”	
			A10	▪ “use machine learning for the user. When... a user reads... content”	
	5		A16	▪ “serving the users with what they really want to read”	
			A16	▪ “serve the users exactly with what they want to read”	
			A16	▪ “know that the user X likes to read...”	5
			A16	▪ “focused on giving the user what they want”	
			A16	▪ “it’s basically serving them what they really want to read at a specific moment”	
	6		A24	▪ “you buy an article, you read it and if you don’t like it you give it back”	
			A30	▪ “If publishers don’t embrace users-centricity, they are dead.”	3
			A31	▪ “There is a power shift from the publisher to the user.”	
	7		A11	▪ “The question is, if the relationship [to the newspaper] is relevant”	1
		8	A7	▪ “I think it [content] should be specialised if somebody wants it”	9
			A8	▪ “content should provide me with things that I do not know”	
Perceived Content Relevance	New	Individual			

- A8     ▪ “the content also relates me to other topics... based on the topic I have”
- A8     ▪ “it [content] should provide me with a surplus”
- A8     ▪ “that’s the drivers’ thing, it’s really a personal interest”
- A8     ▪ “getting access to content... you are willing to pay for it, but it should be different”
- A19    ▪ “it’s really exclusivity, that’s the biggest driver”
- A19    ▪ “And then if you have exclusivity in need, then maybe it can work.”
- A20    ▪ “So they are really focused... you have this niche... it works.”

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