# PEST ANALYSIS OF PAID DIGITAL MEDIA SUBSCRIPTION MODEL IN EUROPEAN COUNTRIES

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Abstract: Due to the growth of advertising business of search engines, aggregators, and social media, many publishers suffer the impact of declining advertising revenues, which most news media have historically relied on. Under such circumstances, the paid subscription model provides a worthy alternative to digital advertising. In the present research, the focus is made on the PEST analysis of paid digital media subscription model in European countries. A correlation and regression analysis are conducted to find out factors (independent variables) that have the most significant effect on the percentage paying for online news (dependent variable) in 23 European countries. As a result of research, the following most essential PEST factors are highlighted: mean broadband download speed, level of internet access in households, median household income, and control of corruption. As for recommendations, it is concluded that publishers should pay more attention to the indicated PEST factors in each European country to ensure their competitiveness. The further research on factors influencing the percentage paying for online news worldwide may boost the successful adoption of best revenue practices by digital media companies and ensure their competitiveness in terms of global digital leadership of top technology companies.

Keywords: digital media, percentage paying for online news, PEST analysis, revenue model,

JEL Classification: F63, F23, L82.

## 1. Introduction

Due to the growth of search engines, aggregators, and social media, many publishers suffer the impact of declining advertising revenues, which most online news media have historically relied on. Diversifying the revenue base is a strategic priority of publishers in the years ahead. The growing number of paid subscribers of digital products of the New York Times, the Wall Street Journal, and the Financial Times, as well as the success of alternative models like the Guardian's membership scheme, have demonstrated that the paid subscription model provides a good alternative to digital advertising. In the case of the subscription model, users pay a fixed rate for access to a product at regular intervals. This model requires long-term investment, smart application of analytics, awareness of the local markets, and leveraging the emotional connection to a brand. According to "Journalism, Media, and Technology Trends and Predictions 2020", 50% of 50 editors in chief, almost 40 CEOs or managing directors, and 30 heads of digital surveyed in 32 countries say that subscription and membership are their main revenue focus in 2020. For comparison, only 14% say that display advertising is their key revenue focus for 2020 (Reuters Institute for the Study of Journalism, 2020).

Since online paid content is one of critical value drivers of the digital business, it is crucial to investigate factors influencing the increase of subscriber growth of digital media companies.

## 2. Previous Research and Theoretical Framework

According to the Global Digital Subscription Snapshot 2020 by FIPP with CeleraOne, more and more publishers in Europe report that their subscription revenues, driven by digital growth, have replaced advertising as their most significant revenue stream (FIPP, 2020). An overview of key European publishers' statistics by title is given in Table no. 1.

Table no. 1. European Publisher Data 2020

Country	Title	Subscriptions	Reported	Cost	
United Kingdom	Financial Times	1100000	2020 Q1	GBP 33 / month	
Norway	Schibsted (Group)	800000	2019 Q3	Varies (Group)	
Germany	Axel Springer (Group)	613000	2020 Q2	Varies (Group)	
United Kingdom	Guardian (members)	446000	2020 Q2	Not applicable	
United Kingdom/Global	Economist App	424585	2019 H2	GBP 55 / quarter	
United Kingdom	The Times/Sunday	345000	2020 Q1	GBP 26 / month	
United Kingdom	The Guardian (subscribers)	265000	2019 Q4	£11.99 / month	
Norway	Amedia (Group)	258000	2019 Q3	Varies (Group)	
United Kingdom	The Telegraph	251000	2020 Q2	GBP 2 / week	
Sweden	Aftonbladet	250000	2018 Q4	SEK 79 / month	
Poland	Gazetta Wyborcza	240000	2020 Q1	PLN 19.90 / month	
France	Le Monde	235000	2020 Q1	EUR 9.90/month	
France	Mediapart	170000	2020 Q1	EUR 11 / month	
Sweden	Dagens Nyheter	166000	2019 Q2	SEK 119 / month	
Norway	Verdens Gang (VG)	150000	2020 Q1	NOK 39 / week	
Italy	Corriere della Sera	133000	2018 Q2	EUR 7.99 / month	
Germany	ZEIT	126296	2019 Q3	EUR 5.80 / week	
Norway	Aftenposten	119000	2020 Q1	SEK 279 / month	
France	Le Figaro	110000	2018 Q4	EUR 9.90 / month	
Germany	Der Spiegel	102209	2019 Q3	EUR 4.99 / month	
Finland	Helsingin Sanomat	100000	2019 Q3	EUR 214.8 / year	
Germany	NOZ Media (group)	100000	2019 Q4	Varies (Group)	
Germany	Süddeutsche Zeitung	100000	2020 Q1	EUR 14.99 / month	
Norway	Dagbladet Pluss	100000	2020 Q1	NOK 55 / week	
Germany	NOZ Median (Group)	100000	2019 Q3	Varies (Group)	
Sweden	Expressen	90000	2020 Q2	SEK 69 / month	
Sweden	MittMedia	81000	2019 Q2	Varies (Group)	
United Kingdom	Mail+	80000	2019 Q4	GBP 10.99 / month	
Sweden	Svenska Dagbladet	77000	2019 Q2	SEK 55 / week	
Germany	Handelsblatt	70248	2019 Q3	EUR 29.99 / month	
Switzerland	Tamedia (Group)	70000	2019 Q1	Varies (Group)	
United Kingdom	Immediate Media	63201	2020 Q1	Varies (Group)	
Netherlands	De Correspondent	60000	2018 Q3	EUR 7 / month	
Spain	El Diario	52000	2020 Q2	EUR 8 / month	
Germany	FAZ	50935	2019 Q3	EUR 2.95 / week	
Netherlands	The Correspondent	45888	2019 Q1	User defined	
Spain	Ara	45000	2020 Q1	EUR 9.99 / month	
Slovak Republic	Denník N	42000	2019 Q3	EUR 8.99 / month	
Switzerland	Neue Zürcher Zeitung	39000	2019 Q3	EUR 10 / month	
Austria	Kleine Zeitung	32700	2019 Q2	EUR 18.99 / month	
Switzerland	Republik	22000	2019 Q1	User defined	
Denmark	Zetland	20000	2019 Q2	DKK 10 / week	
United Kingdom	Tortoise	20000	2019 Q4	GBR 100 / year	
Spain	Infolibre	10000	2019 Q4	EUR 6 / month	
Switzerland	Le Temps	6900	2019 Q3	CHF29 / month	

Source: FIPP, 2020

In the challenging digital media market, publishers should consider the value of their content offering, the potential revenues to be had by pursuing the digital subscription model and factors, which prompt the consumer decision to pay for online content.

The first attempts to study factors that influence paying for online content were made in the 2000s. Those studies focused on micro factors and investigated personal motivations of the audience (Cook & Attari, 2012; Wagner, 2012; Chyi & Lee, 2013). For example, Thurman and Herbert (2007) argue that the audience will pay for journalistic content, if the content is valuable and exclusive, while the payment mechanism is convenient. Himma-Kadakas and Kõuts-Klemm (2015) outline two main reasons why users pay for online content. The first one is exclusive and high-quality content. The second reason is the availability of different digital formats, e.g., games, infographics, video, VR, and AR applications. Goyanes (2014) reveals the correlation of the desire to pay for online content and the following variables:

- demographic indicators (age and income);
- consumption of other digital products (purchase of various mobile applications and computer programs, paid watching movies online);
- media consumption (use of Twitter and Facebook).

Reuters Institute Digital News Report 2020 indicates the following reasons for subscribing to an online publication: brand distinctiveness, quality of the content, convenience, and additional benefits. Moreover, subscribing can be influenced by supplyside factors, i.e., the amount of high-quality free news available. For example, in Norway and Sweden, many publishers have introduced paywalls, increasing a sense of scarcity and creating an impression that news could be worth paying for. By contrast, in the United Kingdom, only a relatively small number of publications try to charge for news. What's more, the report highlights such industry problems as the possibility of reaching an upper limit of subscription base and the emergence of "subscription fatigue", when people are frustrated by being asked to pay for multiple services separately (Reuters Institute for the Study of Journalism, 2019).

The present research focuses on macro factors, in particular, the PEST framework, which affects the proportion of people paying for online news in different European countries.

The PEST framework stands for the following (Waters, 2006):

- political factors;
- economic factors:
- socio-cultural factors;
- technological factors.

# 3. Methodology

The research aims at highlighting macro factors that have a significant effect on the proportion of people paying for online news in different European countries. The research methodology is based on the application of multiple linear regression. The dependent variable is the percentage paying for online news in different European countries. This data is taken from the Reuters Institute Digital News Report 2019. The independent variables are PEST factors that are chosen on the basis of their hypothetic and potential influence on the dependent variable. The rationale behind selecting those factors are given in Table no. 2.

Table no. 2. Rationale behind Selecting Factors for the PEST Analysis of Paid Digital Media Subscription Model in European Countries

No.	Factor	Hypothetic Rationale	Source
		POLITICAL FACTORS	
1	Voice and accountability, %	It reflects perceptions of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression, freedom of association, and free media. Such freedoms boost the diversification of independent media.	World Bank, 2019
2	Political stability and absence of violence/terrorism, %	It measures perceptions of the likelihood of political instability and politically motivated violence, including terrorism. In terms of stable political environment, news tends to be more authentic, fair, and meaningful.	World Bank, 2019
3	Government effectiveness, %	It reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. The quality of public services influences the quality of news organisations.	World Bank, 2019
4	Regulatory quality, %	It reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Sound policies and regulations favour the development of independent media.	World Bank, 2019
5	Rule of law, %	It reflects perceptions of the extent to which agents have confidence in and abide by the rules of society and, in particular, the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. The rules of society influence the content quality provided by news organisations.	World Bank, 2019
6	Control of corruption, %	It reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. The existence of elites and private interests influence the development of investigative journalism.	World Bank, 2019
		SOCIO-ECONOMIC FACTORS	
7	AIC per capita, %	Knowing the actual individual consumption per capita gives necessary insights into price developments and the average willingness to pay.	Eurostat, 2019
8	GDP per capita, %	Knowing the gross domestic product per capita gives necessary insights into price developments and the average willingness to pay.	Eurostat, 2019
9	Urban population, %	The gradual shift of the population from rural to urban areas is a constant phenomenon. The most urbanised regions generally have a high demand for online news.	World Bank, 2019
10	Employment rate, %	Knowing the employment rate gives necessary insights into price developments and the average willingness to pay.	Eurostat, 2019
11	Median household income, euro	Knowing median income gives necessary insights into price developments and the average willingness to pay.	Eurostat, 2019
12	Trust in news overall, %	The undermined trust in news outlets may lead to a decrease in news consumption of certain brands.	Reuters Institute for the Study of Journalism, 2019

13	Mean broadband download speed, in Mbps	With rising connection speed, more sophisticated services and functions of online services are becoming available.	Cable.co.uk, 2019
14	Level of internet access in households, %	Increasing internet penetration builds the base for regular consumption of online news.	Eurostat, 2019
15	Secure internet servers (per 1 million people)	It is a measure of the country's business maturity for securing the privacy and confidentiality of their consumers.	World Bank, 2019
16	Individuals - mobile internet access, %	With rising mobile internet usage, customers consume content of their favourite news brands on the go.	Eurostat, 2019
17	Account ownership at a financial institution or with a mobile-money- service provider, %	Having an account at a bank or another type of financial institution or using a mobile money service facilitates the fast payment process.	World Bank, 2018
18	Online news consumption (including social media), %	With rising online news consumption, the paid online subscription model becomes more common.	Reuters Institute for the Study of Journalism, 2019

Sources: compiled by the author based on Cable.co.uk, 2019; Eurostat, 2019-2020; Reuters Institute for the Study of Journalism, 2019; Statista, 2019 and World Bank, 2019

### 4. Results and Discussion

The correlation analysis is conducted to assess the impact of PEST factors listed above on the percentage paying for online news. The results are given in Tables no. 3-5.

Table no. 3. Correlation Analysis of Political Factors and the Percentage Paying for Online News in Different European Countries

Country	Pay for online news, %, 2019	Voice and account- ability, %, 2018	Political stability and absence of violence/ terro- rism, %, 2018	Govern- ment effective- ness, %, 2018	Regula- tory quality, %, 2018	Rule of law, %, 2018	Control of corrup- tion, %, 2018
Norway	34	100.00	90.48	97.60	95.67	99.52	97.60
Sweden	27	97.54	80.48	96.15	97.60	98.56	98.08
Finland	16	98.52	81.90	99.04	97.12	100.00	100.00
Poland	16	71.92	65.71	75.00	78.37	66.83	74.52
Denmark	15	98.03	82.38	97.12	94.23	96.63	98.56
Ireland	12	92.12	86.19	89.90	92.79	89.90	90.87
Belgium	11	94.09	59.52	83.65	86.06	88.46	90.38
Netherlands	11	97.04	78.10	96.63	99.04	96.15	96.15
Switzerland	11	99.01	95.24	99.52	96.63	99.04	96.63
Romania	10	61.58	48.57	43.27	67.31	63.46	52.40
Spain	10	82.76	55.24	79.33	80.29	80.29	72.60
Austria	9	93.10	80.95	90.87	91.35	97.60	91.35
France	9	88.18	51.90	91.83	83.65	88.94	87.98
Italy	9	81.77	57.62	68.27	73.56	61.54	62.02
UK	9	93.60	48.10	87.98	96.15	91.83	93.27
Germany	8	95.07	66.67	93.27	94.71	91.35	95.19
Slovakia	8	76.85	72.38	75.48	75.96	70.19	66.35

Bulgaria	7	59.11	60.48	62.98	72.60	53.37	50.96
Czechia	7	78.33	87.14	78.37	87.02	81.73	69.23
Greece	7	75.37	50.00	65.87	64.42	59.13	55.77
Hungary	7	58.62	73.33	70.19	73.08	72.12	59.62
Portugal	7	88.67	89.52	86.54	78.85	85.10	80.29
Croatia	6	64.53	73.81	69.23	68.27	62.98	60.10
R		0.4726	0.3607	0.4450	0.4921	0.4787	0.5109

Sources: author's calculation based on Reuters Institute for the Study of Journalism, 2019 and World Bank, 2019.

Table no. 4. Correlation Analysis of Socio-Economic Factors and the Percentage Paying for Online News in Different European Countries

Country	Pay for online news, %, 2019	AIC per capita, %, EU=100, 2019	GDP per capita, %, EU=100, 2019	Employ- ment rate, %, 2019	Median house- hold income, euro, 2018	Urban popula- tion, %, 2019	Trust in news overall, %, 2019
Norway	34	128	144	79.5	39432	83	46
Sweden	27	112	120	82.1	25559	88	39
Finland	16	113	111	77.2	24544	85	59
Poland	16	79	73	73.0	6593	60	48
Denmark	15	116	129	78.3	30097	88	57
Ireland	12	97	191	75.1	24920	63	48
Belgium	11	115	117	70.5	23667	98	49
Netherlands	11	114	128	80.1	24033	92	53
Switzerland	11	124	153	82.9	42802	74	46
Romania	10	79	69	70.9	3284	54	35
Spain	10	91	91	68.0	14785	81	43
Austria	9	118	127	76.8	25176	59	39
France	9	109	106	71.6	22261	81	24
Italy	9	99	95	63.5	16844	71	40
UK	9	115	105	79.3	21464	84	40
Germany	8	123	121	80.6	22647	77	47
Slovakia	8	73	74	73.4	7462	54	33
Bulgaria	7	59	53	75.0	3585	75	40
Czechia	7	85	92	80.3	9088	74	33
Greece	7	77	68	61.2	7875	79	27
Hungary	7	67	73	75.3	5444	72	28
Portugal	7	86	79	76.1	9346	66	58
Croatia	6	66	65	66.7	6659	57	40
R		0.4859	0.4301	0.3747	0.5616	0.3377	0.2777

Sources: author's calculation based on Eurostat, 2019-2020; Reuters Institute for the Study of Journalism, 2019 and World Bank, 2019

Table no. 5. Correlation Analysis of Technological Factors and the Percentage Paying for Online News in Different European Countries

Country	Pay for online news, %, 2019	Mean broad- band download speed, in Mbps, 2019	Level of internet access in house- holds, %, 2019	Secure internet servers (per 1 million people), 2019	Individuals - mobile internet access, %, 2019	Account owner- ship at a financial institu- tion or with a mobile- money- service provider (% of popula- tion ages 15+), 2018	Online news con- sumption (inclu- ding social media), %, 2019
Norway	34	38.46	98	36181	58	99.75	84
Sweden	27	55.18	96	25672	49	99.74	84
Finland	16	29.34	94	57706	39	99.79	85
Poland	16	24.38	87	20603	34	86.73	86
Denmark	15	49.19	95	277134	58	99.92	80
Ireland	12	23.87	91	95278	44	95.34	84
Belgium	11	35.69	90	19664	57	98.64	79
Netherlands	11	40.21	98	130370	49	99.64	78
Switzerland	11	38.85	96	95788	45	98.43	83
Romania	10	21.80	84	19180	32	57.75	87
Spain	10	36.06	91	17716	37	93.76	80
Austria	9	19.33	90	26307	47	98.16	75
France	9	30.44	90	29396	48	94.00	69
Italy	9	17.30	85	15169	14	93.79	76
UK	9	22.37	96	35990	56	96.37	75
Germany	8	24.64	95	77933	52	99.14	68
Slovakia	8	29.45	82	20092	40	84.18	80
Bulgaria	7	16.95	75	40238	25	72.20	88
Czechia	7	23.27	87	56198	31	80.99	85
Greece	7	13.41	79	6651	25	85.47	92
Hungary	7	31.10	86	26244	47	74.94	85
Portugal	7	22.75	81	19182	34	92.34	79
Croatia	6	17.22	81	22743	22	86.14	89
R		0.6170	0.5628	0.1073	0.4360	0.3839	0.1299

Sources: author's calculation based on Cable.co.uk, 2019; Eurostat, 2019; Reuters Institute for the Study of Journalism, 2019 and World Bank, 2019

The correlation analysis showed that the percentage paying for online news in different European countries is most influenced by the following PEST factors:

- 1. mean broadband download speed: R = 0.6170;
- 2. level of internet access in households: R = 0.5628;
- 3. median household income: R = 0.5616;
- 4. control of corruption: R = 0.5109.

These four factors showed a moderate positive correlation with the percentage paying for online news, which means that there is a tendency for relatively high scores of the indicated PEST factors to go with high scores of the percentage paying for online news (and vice versa).

The multiple linear regression model is as follows:

$$Y = -6.0153 + 0.2696x1 + 0.1245x2 + 0.0002x3 - 0.0625x4$$

where the dependent variable Y is the percentage paying for online news in different European countries, while independent variables are the following:

- x1 mean broadband download speed;
- x2 level of internet access in households;
- x3 median household income:
- x4 control of corruption.

Table no. 6. Summary of Overall Fit

R-Squared	$R^2 = 0.4456$
Adjusted R-Squared	$R^2_{adj} = 0.3225$
Residual Standard Error	5.5096 on 18 degrees of freedom.
Overall F-statistic	3.6176 on 4 and 18 degrees of freedom.
Overall p-value	0.0248

Source: author's calculation

The coefficient of determination  $R^2 = 0.4456$  means that the variance of these four PEST factors explains the variance of the percentage paying for online news in different European countries to the extent of 44.56%. The figures listed in Table 6 indicate that this multiple regression model is of moderate quality.

Table no. 7. Coefficients

Predictor	Coefficient	Estimate	Standard Error	Standardised Coefficients	t- statistic	p- value
Constant	β0	-6.0153	29.3021		-0.2053	0.8397
x <sub>1</sub> – mean broadband download speed	β1	0.2696	0.1515	0.4291	1.7795	0.0921
x <sub>2</sub> – level of internet access in households	β2	0.1245	0.4274	0.1221	0.2913	0.7742
x <sub>3</sub> – median household income	β3	0.0002	0.0002	0.3452	0.9476	0.3559
x <sub>4</sub> – control of corruption	β4	-0.0625	0.1670	-0.1599	-0.3740	0.7128

Source: author's calculation

The value of the constant indicates a moderate value of the dependent variable at zero value of independent variables, i.e., if mean broadband download speed, level of internet access in households, median household income, and control of corruption equal zero, the percentage paying for online news will be negative: -6.0153. The independent variables included in the regression equation do not fully describe the impact of different factors on the percentage paying for online news, as there are other factors, including brand distinctiveness, quality of the content, convenience, and additional benefits that also affect the dependent variable.

Approximately 95% of the observations should fall within  $\pm 2$ \*standard error of the regression from the regression line. Thus, the value of the percentage paying for online news in the absence of the influence of the PEST factors may deviate from the average value of -6.0153 by  $\pm 2*29.3021$ , which is equal to 58.6042%.

Standardised beta coefficients compare the strength of the effect of each individual independent variable to the dependent variable. The mean broadband download speed and the median household income have the strongest impact on the percentage paying for online news.

A p-value is less than 0.05 (0.0248), so it is statistically significant and indicates strong evidence against the null hypothesis.

## 5. Conclusions and Recommendations for Future Research

From the data presented above, we can draw the following conclusion: as of 2019, four of PEST factors, namely mean broadband download speed, level of internet access, median household income, and control of corruption, are important predictors for the percentage paying for online news in different European countries.

With the mean broadband download speed increasing, more advanced services and functions of online services are available. The high internet penetration in the country creates the basis for daily online news consumption. Knowing median household income gives necessary insights into price developments and the average willingness of readers to pay. The control of corruption in the country reflects perceptions of the extent to which public power is exercised for private gain. The existence of elites and private interests affects the development of investigative journalism.

As for recommendations, media companies should pay attention to the indicated PEST factors in each European country to boost their national competitiveness. For example, if the mean broadband download or internet penetration is relatively low, companies can work on the download speed of their websites or applications or even provide a light version of their products so that any consumer in the country can have easy and convenient access to their products. Considering the median income helps companies choose the appropriate pricing strategy, while the indicator of control of corruption helps understand the topics, which the target audience will be interested in most of all.

The limitations of this study consist in the following: to understand the full scope of correlation of PEST factors and paying for online news, it is necessary to research the time-series data (i.e., consider statistics for ten years) and different regions and countries of the world (including, Americas, Asia Pacific, and Africa). What's more, the coronavirus impact on online media business can be the topic of a comprehensive investigation, since the preliminary measurements show that the crisis has accelerated long-term structural changes towards a more digital, more mobile, and more platform-dominated media environment (Reuters Institute for the Study of Journalism, 2019).

However, the described PEST analysis of paid digital media subscription model in European countries as for 2019 serves as a starting point of investigating the interrelationship between the proportion of people paying for online news and macro factors. The further development of this topic can foster the successful implementation of best revenue practices by digital media companies and ensure their competitiveness in terms of global digital leadership of top technology companies.

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