

Understanding the power of temporal retention of online French retailers

Abstract:

Purpose: Our research attempts to understand the variability of online retailers' Power of Temporal Retention.

Methodology: Applying the method of Stated Preference, we conducted a survey with 245 web users.

Findings: In conceptual terms, our findings allow us to expand on the definition of the STICKINESS concept by identifying key explanatory factors. In managerial terms, we provide firms with information to clearly define the actions they need to take on their websites in order to improve their stickiness-related performance.

Originality: This study aimed to clarify the concept of stickiness from both a theoretical and an operational perspective. The use of the stated preferences method allowed us to define individuals' motivation to stay on a website, which averaged 20 minutes in our study. The first contribution lies in the methodology adopted, which appears well adapted to our chosen topic. The second contribution relates to the data needed to use the methodology and to its great flexibility.

Key words: e-commerce, stickiness, digital strategy, stated preference method, Tobit Model, web marketing

In 2018, Facebook announced a drop in the amount of time users spent on their website of around 7% (or around 2 minutes a day). At the same time, Facebook's share price fell by 20% - in other words, a decline in capitalisation of over 100 billion dollars.

In the context of experiential marketing (Maffesoli, 1990), the power of a website's user retention appears to be a key variable in understanding purchasing behaviour. The time spent by users on online retail and non-retail sites is called "stickiness" and is one of the key success factor in e-commerce (Lin, 2007). Yanling and Ying (2015) give a relatively clear definition of stickiness: "*It is usually used to describe the ability that websites attract visitors, retain visitors and prolong their residence time.*"

While recent research (Lin et al., 2016) has underscored the importance of stickiness in acquiring a competitive advantage by retaining visitors, gaps remain in our understanding of this indicator. The explanatory factors regarding a website's stickiness remain indefinite, especially for e-commerce businesses (Lin, 2007).

The aim of this study is to identify the explanatory factors underlying the stickiness of French online retailer websites and to measure their respective importance. A quantitative study was conducted with 245 individuals who make regular online purchases. The results of the econometric study data helped us to define nine explanatory factors of stickiness and to calculate their influence on the time spent by each visitor.

1. Theoretical background

Stickiness is generally measured through three main quantitative elements or metrics (Hsu and Lin, 2016): the length of the visit, the frequency of visits and the number of pages viewed. Over and above these metrics, more qualitative indicators tend to influence stickiness.

Thus, Zhang et al. (2017) showed that intention to revisit a website is significantly influenced by the perception of its value. If individuals consider a website to be of little interest, they will leave it quickly and not go back to it (Hsu and Liao, 2014). For Volle and Florès (2005), "*the main factor that appears to trigger intention to go back to a website is the quality of the online experience.*"

H1: Ergonomics has a positive influence on stickiness

H2: The impression of wellbeing has a positive influence on stickiness

H3: Good visuals have a positive influence on stickiness

Many studies have shown that consumers spend an increasing amount of time looking for information, writing reviews, and in dialogue or co-creation with companies (Cova and Cova, 2012; Djelassi and Decoopman, 2013). The importance of information and its accessibility has also been noted. Hsu and Liao (2014), for example, examined the relationship between the perceived accessibility of information and the stickiness of microblogs.

H4: The quality of information on a website has a positive impact on stickiness

Holbrook and Hirshman (1982) argue that consumers not only seek to engage in a rational choice, but also try to benefit from positive, significant and intense interactions. In terms of presence or social interaction, Zott et al. (2000) noted the need for e-commerce retailers to work especially hard on developing consumer trust.

H5: Trust in a website has a positive impact on stickiness

H6: Good social presence has a positive influence on stickiness

From the ensuing hypotheses, we can thus represent stickiness by way of a figure that summarises all of these factors (Figure 1).

Figure 1: Explanatory factors of stickiness for online retailers

2. Data and methodology

The method used to understand the stickiness of online retailers is called the stated preference method, developed in the middle of the 1990s by two Nobel prize winners (Arrow et al., 1993). (, . The questionnaire was pre-tested with 12 individuals of different ages and PCS in order to identify any ambiguity in the questions and to remove any misunderstandings. The questionnaire was designed and administered according to the recommendations of Johnston et al. (2017). The final questionnaire had 56 questions. It was administered to 245 French web users in accordance with the method of quotas (Table 1).

Table 1: Main questionnaire response criteria

The stated preference method requires econometric data processing adapted to a Tobit type model (Greene et al., 2011). In effect, micro-economic data generally feature censoring of the dependent variable (in our case ranging from 0 minutes to, in theory, infinity plus). Table 2 presents the significant variables retained in the Tobit model.

Table 2: Variables retained for the Tobit model

Facility	1 if the website is easy to use 0 otherwise
Price	1 if the website offers prices that are clearly perceived as competitive 0 otherwise
Visuals	1 if the visuals are considered to be of very high quality 0 otherwise
Good time	1 if the individual fully agrees that they had a good time on the website 0 otherwise
Reviews	1 if the user reviews are important 0 otherwise
Trust	1 if the web user has no confidence at all in the site 0 otherwise

Table 3: Tobit model

					Observations: 245	
					LR chi2 (12)	61.71
					Prob>chi2	0.0000
Log likelihood		-1000.84			Pseudo R2	0.0299
Variable	Coef	Std. Err	z	pz	[95% Conf. Interv]	
Visuals	4.51	2.61	1.73	0.085	-0.644	9.661
Good time	9.95	4.59	2.17	0.031	0.904	18.998
Reviews	5.03	3.05	1.65	0.100	-0.0978	11.043
Trust	8.48	3.31	2.56	0.011	1.956	15.020
Gender	9.62	2.51	3.83	0.000	4.713	14.581
Facility	17.14	6.28	2.73	0.007	4.494	29.519
Price	10.98	4.33	2.53	0.012	2.376	19.526
Cons	-17.59	6.175	-2.85	0.005	-41.066	-5.433

Based on the results obtained, we calculated the significant marginal effects of each variable in order to put them in order.

3. Findings

Econometric processing confirmed that websites with high quality visuals motivate web users to stay longer (Reichheld and Scheffer, 2000). People perceive good aesthetics as a guarantee of quality, which arouses both their curiosity and a feeling of proximity with the company. By calculating the marginal effects, we were able to evaluate the impact of good quality visuals on stickiness at around 4 minutes.

We noted that user-friendliness has a significant positive effect on stickiness, while ergonomics and customer experience also explain the stickiness of online retailers. By calculating the marginal effects, we can estimate the impact of ergonomics on stickiness at around 17 minutes.

The “consumer reviews” variable was significantly positive, reflecting the importance of social presence and the need for interaction between future clients and today’s consumers. This search for objective relational information increases the presence of web users by around 5 minutes, justifying the growing effort of firms to incorporate this type of social presence by developing chatbots, for example.

We show that when users enjoy browsing on an online retailer’s website, they spend more time on it. The “Good time” variable was indeed significant. In line with the work of Gala et al. (2002) and Lemoine (2008), we confirmed the positive influence of a pleasant purchase environment on an online retailer’s stickiness. A positive customer experience encourages a user to spend 10 minutes more on the online retailer’s website than on others.

Contrary to the conclusions of Rayport and Svioka (1994) and Tangmanee (2017) that information provided on product and service descriptions has a significant influence on web users remaining on a site, our statistical results tend to reject this hypothesis.

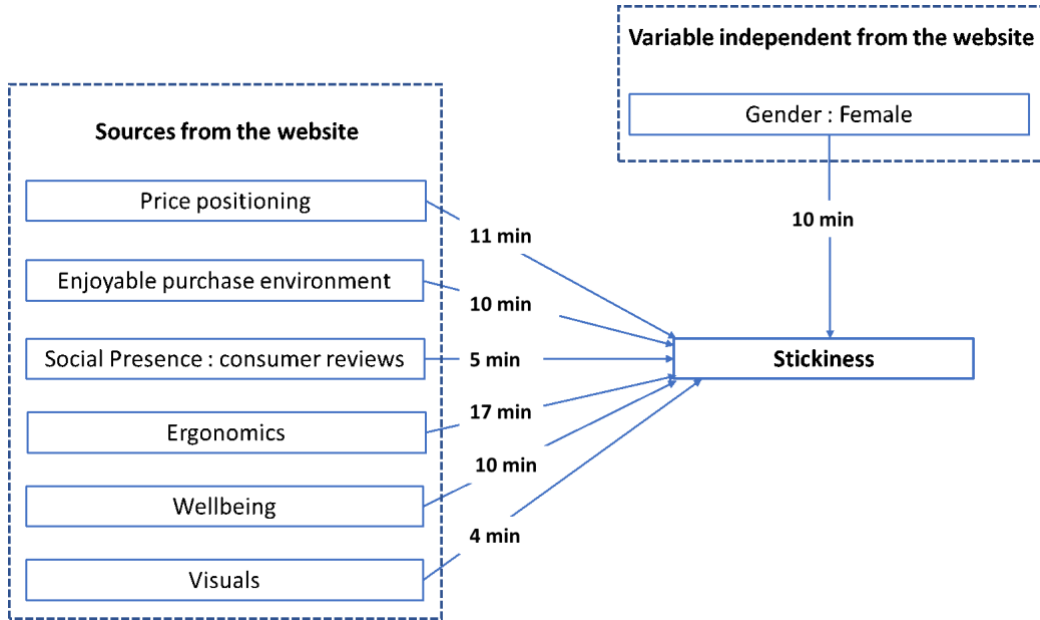
Two other variables proved to be significant, namely, the price variable and the gender variable. Price positioning seen as competitive by users encourages them to stay longer on the site in question (our calculations estimate this time at 11 minutes). We also showed that gender helps to explain the time spent on a website. Women tend to spend longer (around 10 minutes) on online retail websites than men.

Table 4: Summary of results and temporal impacts

	Not rejected	Rejected	STICKINESS
H1: Ergonomics influences stickiness	X		+17 min
H2: The quality of information influences stickiness		X	
H3: Trust in a website influences stickiness		X	
H4: The impression of wellbeing influences stickiness	X		+10 min
H5: Social presence influences stickiness	X		+5 min
H6: Visuals influence the power of retention	X		+4 min
New result 1: Competitive prices influence stickiness	X		+11 min
New result 2: Being a woman increases the amount of time spent on a website	X		+10 min

In Figure 2, we set out the explanatory factors of stickiness.

Figure 1: Explanatory factors of STICKINESS



This representation of stickiness can help to guide business leaders/managers regarding the best actions to adopt in order to increase the interest of web users in their online retailer. stickiness

4. Discussion and conclusion

This study aimed to clarify the concept of stickiness from both a theoretical and an operational perspective.

In theoretical terms, our study attempted to characterize the concept of stickiness by identifying the main underlying factors as Lin (2007) considered the existing explanatory factors to be relatively vague. In terms of managerial implications, we sought to identify the factors that influence stickiness. The calculation of marginal effects is used to give each variable a weighting in order to define the most appropriate strategy.

Given these factors, businesses just need to decide on their priorities depending on the actions already taken.

With regard to the limitations of our study, the first issue might be the exploratory nature of our approach. Our questionnaire was deliberately wide-ranging so as to identify new variables that could explain stickiness. However, we need to develop more

research on the influence of gender and the absence of influence of trust or offer diversity.

We are well aware of the originality of the method used. More widespread use of this approach in management research would require additional methodological research.

Finally, our study is simply a first attempt to grasp the concept of the Power of Temporal Retention. Figure 1 clearly highlights the partial contribution of our work in defining the characteristics of stickiness.

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