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# Mapping the Literature Using the Systematic Mapping Study Method for Customer Frustration Research

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## Abstract

The primary purpose of this article is to do classification and thematic analysis of previous research on customer frustration using a systematic mapping study (SMS). The main research was carried out by combining automatic and manual search. The automatic search was through electronic journal database references: ProQuest Research Library, EBSCOhost: Academic Search Complete, Google Scholar, Emerald Insight and Scopus, while the manual one was performed on Google search with the snowball sampling method. A total of 28 studies on customer frustration in the form of journal articles and proceedings were included in the inclusion criteria. The results of the mapping show that: 1) the object of study on customer frustration is dominated by the quality of service and the internet, therefore, in the future, it can be developed in other objects and subjects, 2) the context of customer frustration is defined as a negative emotional reaction because consumers' goals are not accomplished or hindered, hence research needs to reinforce this definition so as not to be ambiguous with other definitions of negative emotions, especially anger, 3) the location of the research still needs to be expanded, and 4) quantitative and qualitative or mixed approaches can be applied.

Keywords: systematic mapping study, customer frustration, research

## 1. Introduction

Consumer behavior research has generally focused on satisfaction and dissatisfaction (Oliver, 1997; Söderlund, 2003; Stauss, Schmidt, & Schoeler, 2005). Dissatisfaction hides the fact of negative emotions (Söderlund, 2003; Stauss et al., 2005), and it is recommended that research focuses on consumers' negative emotions. One form of negative emotion is customer frustration. Frustration occurs when events for making goals or satisfaction needs are not achieved or are delayed to be achieve, or require additional efforts (Berkowitz, 1989; Scherer, 2001).

Research on customer frustration continues to primarily concerns the experience of negative emotions in online shopping (Kukar-Kinney & Close, 2010) and loyalty programs (Stauss et al., 2005; Sven Tuzovic, 2010). The importance of customer frustration emphasizes that customer frustration is an excellent source for getting new product ideas, which of course includes service improvement. Sven Tuzovic (2010) stressed that frustrated consumers have the potential to harm the company because frustration directly affects customer relationships. Avoiding customer frustration is an essential strategy for maintaining excellence (Berry et al., 2010; Kukar-Kinney & Close, 2010).

The growing frustration of research is marked by an increase in reports of journals and proceedings hence it is important to prepare a summary and outline the themes of customer frustration research previously conducted. Mapping research will present research gaps in customer frustration that must be developed, so that future research has novelty.

## **2. Systematic Mapping Study Procedure**

Systematic mapping studies have a primary objective of identifying the quantity and the theme, and the results of research and of looking at the frequency and trends of publications (Petersen, Feldt, Mujtaba, & Mattsson, 2008). According to (B. A. Kitchenham, Budgen, & Brereton, 2011) this type of study examines broad topics and classifies literature in specific domains, using and answering research questions. Systematic mapping studies are also referred to as secondary research because they do the mapping of primary studies of certain themes (B. Kitchenham, 2010). Based on this, this study aims to analyze primary studies of customer frustration by making a systematic mapping. This mapping research protocol is based on the guidelines set forward by (Budgen, Turner, Brereton, & Kitchenham, 2008; B. Kitchenham, 2004) and (Petersen et al., 2008) and on the good practices of mapping studies conducted by (B. Kitchenham, 2010; B. A. Kitchenham et al., 2011) and (Valença, Alves, Alves, & Niu, 2013).

### **2.1. Research purposes**

The purpose of this study is to investigate how frustration is related to business by understanding the construct of customer frustration, its relationship with other

variables, the dominant research methods used, objects and subjects, location, and affiliation of customer frustration research journals.

## 2.2. The method of the primary study search process

B. Kitchenham (2004) suggests that search for primary studies generally begins using an electronic database. In addition, with consideration to expand and improve the quality of search results, manual search is also conducted on the website using the Google search engine. These two forms of search are not limited by the year of publication. The Search Process is presented in Figure 1, which is illustrated as follows.

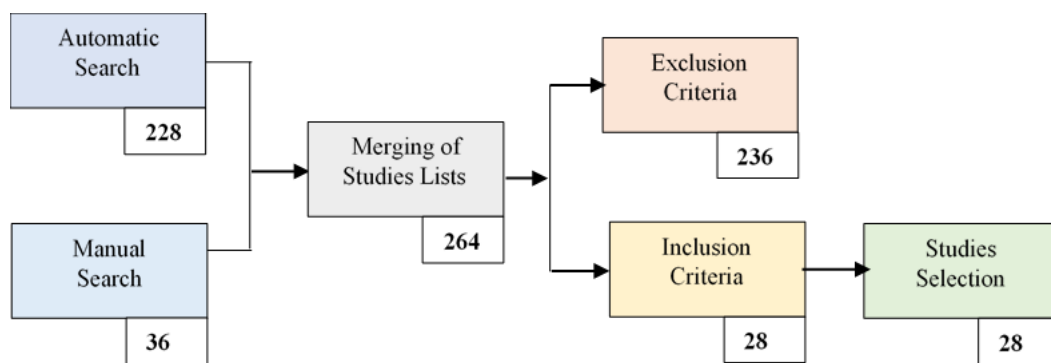


Figure 1. Primary search process (Valença et al., 2013)

### Step 1 - Automatic Search

An automatic search was performed on the following electronic journal databases: ProQuest Research Library, EBSCOhost, Google Scholar, Emerald Insight, and Scopus. For ProQuest Research Library search using customer frustration string in (1) Basic search: Full-text Search string obtained 1030 reports, (2) Advanced search by Source type: Scholarly Journals filter obtained 1007 reports, (3) English obtained 1005, (4) Subject: electronic commerce and consumer behavior obtained 130 reports.

For EBSCOhost 1 report was obtained, For Google Scholar with Search string: "Customer frustration" and Document type: Article 9 reports were obtained. For Emerald Insight with Search string: "Customer frustration" 75 reports were obtained and Scopus with search string: TITLE-ABS-KEY ("customer frustration") AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "cp")) AND (LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "COMP") OR LIMIT-TO (SUBJAREA, "SOCI") OR LIMIT-TO (SUBJAREA, "DECI") OR LIMIT-TO (SUBJAREA, "PSYC")) AND

(LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (SRCTYPE, "j") OR LIMIT-TO (SRCTYPE, "p")) 13 reports were obtained.

#### Step 2 - Manual Search

A manual search was performed to expand and improve the quality of the search. A basic manual search was performed because the automatic search process in the electronic database of the journal yielded very few journal results and proceedings in inclusion criteria. It was feared that with the few papers that filled the criteria, the outcomes of the systematic mapping were of inadequate quality and did not hold the value of the research scheme generalizations.

The manual search process was carried out with snowball sampling, beginning with a review of selected primary studies in which there were quotes that were highly relevant to the customer frustration string, leading to the bibliography of the primary study. The results of this study presented the title of the article and the name of the researcher, which was then tracked using the Google search engine. Manual search resulted in as many as 36 primary study reports.

#### Step 3 - Merging Study Lists

This step was done by combining automatic and manual search results and removing duplicate reports. There were 228 reports from automatic searches and 36 from manual searches with a total of 264 reports. Four duplicate reports were not included so that 260 study reports were obtained to be analyzed through inclusion and exclusion criteria.

#### Step 4 - Selection Criteria

The selection criteria aimed to support the selection of the main studies to be analyzed in the mapping study. Inclusion and exclusion criteria were established for the main study. Inclusion criteria were (1) Reports of customer frustration studies in the form of journal articles or proceedings (2) Availability in full-text (3) Research approaches the problem of customer frustration in search strings; (4) complete report selection if there were several similar studies; (5) studies that answered at least one research question.

Exclusion criteria - (1) Non- English texts; (2) research outside of customer frustration studies; (3) white papers, books, posters, article summaries, tutorials, panels,

presentations, personal opinions and or points of view; (4) paper not accessible or unavailability of full text in PDF or Microsoft Word format.

#### Step 5 - Study Selected

This step was carried out by applying the inclusion and exclusion criteria based on abstracts, introduction, methods and conclusions from each paper. Of the 260 papers, 28 papers were included in the inclusion criteria for further analysis, while 232 papers included the exclusion criteria. A complete list of selected papers is attached in the appendix.

### **2.3. Data Extraction and Analysis**

After the search and selection procedure, the study was through extraction. Reports were analyzed to find information needed to answer the research questions. Extraction spreadsheets were created by taking text excerpts from the main study to answer each research question and compiling in a spreadsheet: (a) source, title, author and year of publication; (b) definition of customer frustration (c) relationship with other variables; (d) description of objects and research subjects; (e) description of the research method used; (f) description of journal affiliation; and (g) identification of research location (country).

## **3. Results**

### **3.1. Scope definition of Customer frustration**

Frustration is a concept in psychology that was first put forward by Freud (1921 and 1933), and then followed by (Dollard, Miller, Doob, Mowrer, & Sears, 1939). Frustration is referred to as a very negative emotion that occurs when potentially beneficial actions cannot be achieved (Colman, 2015). Frustration can refer to the existence or lack of progress in achieving goals due to limitations and severe challenges in achieving them (Csikszentmihalyi & Csikszentmihalyi, 1992).

#### a. Frustration

Frustration is described as a very negative form of emotion (Berkowitz, 1989; Colman, 2015; Lazarus & Lazarus, 1991; Tronvoll, 2011; Wetzer, Zeelenberg, & Pieters, 2007) and (Petzer, De Meyer, Svavi, & Svensson, 2012; Svavi & Erling Olsen, 2012; Svavi, Slåtten, Svensson, & Edvardsson, 2011). Frustration is a condition of emotional

distress associated with anger (Bougie, Pieters, & Zeelenberg, 2003; Roseman, 1991; Stagner, 1937; Tronvoll, 2011). Frustration illustrates an unpleasant condition because the goal of satisfaction is not reached or hindered by internal and external factors (Berkowitz, 1978, 1989; Britt & Janus, 1940; Csikszentmihalyi & Csikszentmihalyi, 1992; Popplestone & McPherson, 1988).

b. Customer frustration

Customer frustration theory describes customers who will experience very negative emotions when the expected reward or satisfaction goal is blocked or prevented (Colman, 2015; Lazar, Jones, Hackley, & Shneiderman, 2005; Sviri et al., 2011; Wetzler et al., 2007) or require additional efforts (Scherer, 2001), as a form unsatisfactory service responses (Laros & Steenkamp, 2005; Nguyen & McColl-Kennedy, 2003; Ruth, Brunel, & Otnes, 2002), and responses to loss of potential benefits (Anderson & Bushman, 2002; Bessiere, Ceaparu, Lazar, Robinson, & Shneiderman, 2004; Colman, 2015) and frustration will reduce satisfaction (Lazar et al., 2005)

c. Frustration with dissatisfaction

Customers' frustration is different from dissatisfaction; frustration is a special case of being very dissatisfied. Detailed setting of goals and expectations for their achievement is a precondition for frustration, but not for dissatisfaction (Stauss et al., 2005). Customer frustration is a very negative emotion because the purpose or reward is not fulfilled (Rosenzweig, 1944; Shorkey & Crocker, 1981), (O'Leary-Kelly, Griffin, & Glew, 1996). Consumers who experience frustration will behave aggressively (Berkowitz, 1989; Dollard et al., 1939; Lazarus & Lazarus, 1991). In marketing, frustration constructs tend to be equated with anger, therefore frustration is often missed in marketing studies (Laros & Steenkamp, 2005; Richins, 1997). However, frustration is different from anger, where angry people focus on the despicable actions of others, whereas frustrated people focus on negative results (Clore & Centerbar, 2004; Gelbrich, 2010). Frustration can be explained through three main elements, namely: frustration incidents, frustration sensations, and frustrating behavior (Stauss et al., 2005; Sven Tuzovic, 2010).



### **3.2. Relationship of customer frustration with other factors**

This concept of frustration has been adopted and used in other fields in recent decades. Now customer frustration has become a growing research theme, not only limited to the study of psychology.

#### **a. Demographic factors of customer frustration**

Some demographic factors are proven to be related to customer frustration, age (Román & Riquelme, 2014; Vaishnavi & Ganesh, 2014), gender, education, agreeableness, conscientiousness related to customer frustration (Román & Riquelme, 2014). Besides that, self-efficacy and mood also relate to customer frustration (Bessiere, Newhagen, Robinson, & Shneiderman, 2006).

#### **b. Frustration of consumers with service quality**

There are several relevant studies that discuss customer frustration as predictors of consumer behavior. The connection between customer frustration and service is triggered, among others, by service failure or perceived negative service so that consumers' goals or expectations are not met or hindered (Averill, 2012; Chignell, Jovanovic, Chelsea, Jiang, & Leon, 2014; Day, 1984; Folkes, Koletsky, & Graham, 1987; Nyer, 2000). Service quality is correlated with emotional satisfaction (Guchait & Namasivayam, 2012; Söderlund, 2003; Wong, 2004). Frustration is also a predictor of complaint behavior (Svari & Erling Olsen, 2012; Tronvoll, 2011).

#### **c. Frustration of computer and internet users**

Frustration is also associated with computer users, where the frustration of computer users is universal (Bessiere et al., 2006; Ceaparu, Lazar, Bessiere, Robinson, & Shneiderman, 2004). Causes of frustration include:

1. The inability of users to use computer technology (Bessiere et al., 2006; Román & Riquelme, 2014; Sun & Spears, 2011).
2. Search engine ineffectiveness (Campbell & Wright, 2008; Su, 2008; Sun & Spears, 2012).
3. The length of time waiting or response due to connection down, error (Ceaparu et al., 2004; Román & Riquelme, 2014; Ryan, del Mar Pàmies, & Valverde, 2015; Schleifer & Amick III, 1989; Selvidge, Chaparro, & Bender, 2002).

Table 1. Relationship of customer frustration with other factors

Category	Variable	Effect	Frustration	Author
Service	Service failure	→ (+)	Frustration	(Chignell et al., 2014; Gelbrich, 2010; Petzer et al., 2012; Susskind, 2004)
	Services Quality	→ (+)	Frustration	(Guchait & Namasivayam, 2012; Söderlund, 2003; Wong, 2004)
	Loyalty	← (-)	Frustration	(Stauss et al., 2005; Sven Tuzovic, 2010; S Tuzovic & Mangold, 2008; Wong, 2004)
	Complaint	← (+)	Frustration	(Svari & Erling Olsen, 2012; Tronvoll, 2011)
Computer/ Internet users	Search Effectiveness	→ (-)	Frustration	(Sun & Spears, 2012)
	Expertise	→ (-)	Frustration	(Román & Riquelme, 2014)
	Error	→ (+)	Frustration	(Ceaparu et al., 2004)
	Download and response time	→ (-)	Frustration	(Ceaparu et al., 2004; Ryan et al., 2015; Schleifer & Amick III, 1989; Selvidge et al., 2002)
	Feature	→ (-)	Frustration	(Ceaparu et al., 2004)
	Connection down	→ (+)	Frustration	(Ceaparu et al., 2004)
	Roadblock Online Games	→ (+)	Frustration	(Liao et al., 2016)
	Privacy and Security	→ (-)	Frustration	(Ruiz-Mafe, Ruiz-Mafe, et al., 2016)
Demographics	Personal Factor	→ (+)	Frustration	(Román & Riquelme, 2014; Vaishnavi & Ganesh, 2014)
	Self-efficacy and mood	→ (+)	Frustration	(Bessiere et al., 2006)
Innovation	Innovation	← (+)	Frustration	(Haavisto & Sandberg, 2015; Weiss, 2012)
Intention behavior	Purchase Intention	← (-)	Frustration	(Said et al., 2014; Söderlund, 2003)
	Negative WOM	← (+)	Frustration	(Román & Riquelme, 2014; Sven Tuzovic, 2010; S Tuzovic & Mangold, 2008)
Customer Control	Urgency, control, response	→ (+)	Frustration	(Ellway, 2016; Hudson et al., 2017)
	Situational	→ (-)	Frustration	(Bessiere et al., 2006)
	Control and Justice	→ (-)	Frustration	(Hudson et al., 2017)

Note: → Effect to customer frustration  
 ← influenced by customer frustration  
 (+) positive effect, (-) negative effect

4. Lack of website features (Ceaparu et al., 2004).

This user frustration results in the abandonment of the website and cancellation of product search and purchase intentions (Su, 2008). Finally, one's internet experience and expertise are negatively correlated with customer frustration (Román & Riquelme, 2014). Computer or online gamers also often experience frustration when they cannot reach a certain level (Liao, Huang, & Teng, 2016). In addition, the issue of privacy and internet security is also a predictor of user frustration (Ruiz-Mafe, Tronch, & Sanz-Blas, 2016).

d. Frustration of consumers with behavioral intention

Consumers will call off their purchase intention if they experience frustration in the process (Said, Nenin, Samawi, Mahayudin, & Tamrin, 2014; Söderlund, 2003). In the context of loyalty, customer frustration is negatively correlated with loyalty (Wong, 2004). Problems linked to customer loyalty programs that cause negative emotions can occur if loyalty reward programs are not obtained (Anderson & Bushman, 2002; Bessiere et al., 2004; Colman, 2015; Popplestone & McPherson, 1988; Stauss et al., 2005; Susskind, 2004; Sven Tuzovic, 2010) and can also cause negative WOM in online forums, social media and directly (Román & Riquelme, 2014; Sven Tuzovic, 2010; S Tuzovic & Mangold, 2008).

e. Frustration of consumers with situational factors

Someone can experience frustration in submitting their complaints to the call center services if what is conveyed is urgent, but the response and control are held by the call center employees or the person gets unsatisfactory responses (Bessiere et al., 2006; Ellway, 2016; Hudson et al., 2017).

### **3.3 . Classification of Research Methods Used**

Research methods mean approach used in research be it quantitative, qualitative or combined. The results obtained by the research approach used in customer frustration research are dominated by the quantitative approach (57%), followed by qualitative (36%) and only 7% use a combination of qualitative and quantitative. Testing the relationship between other variables and customer frustration is dominated by using structural equation modeling, while for qualitative approaches, content analysis and theoretical studies are dominant.

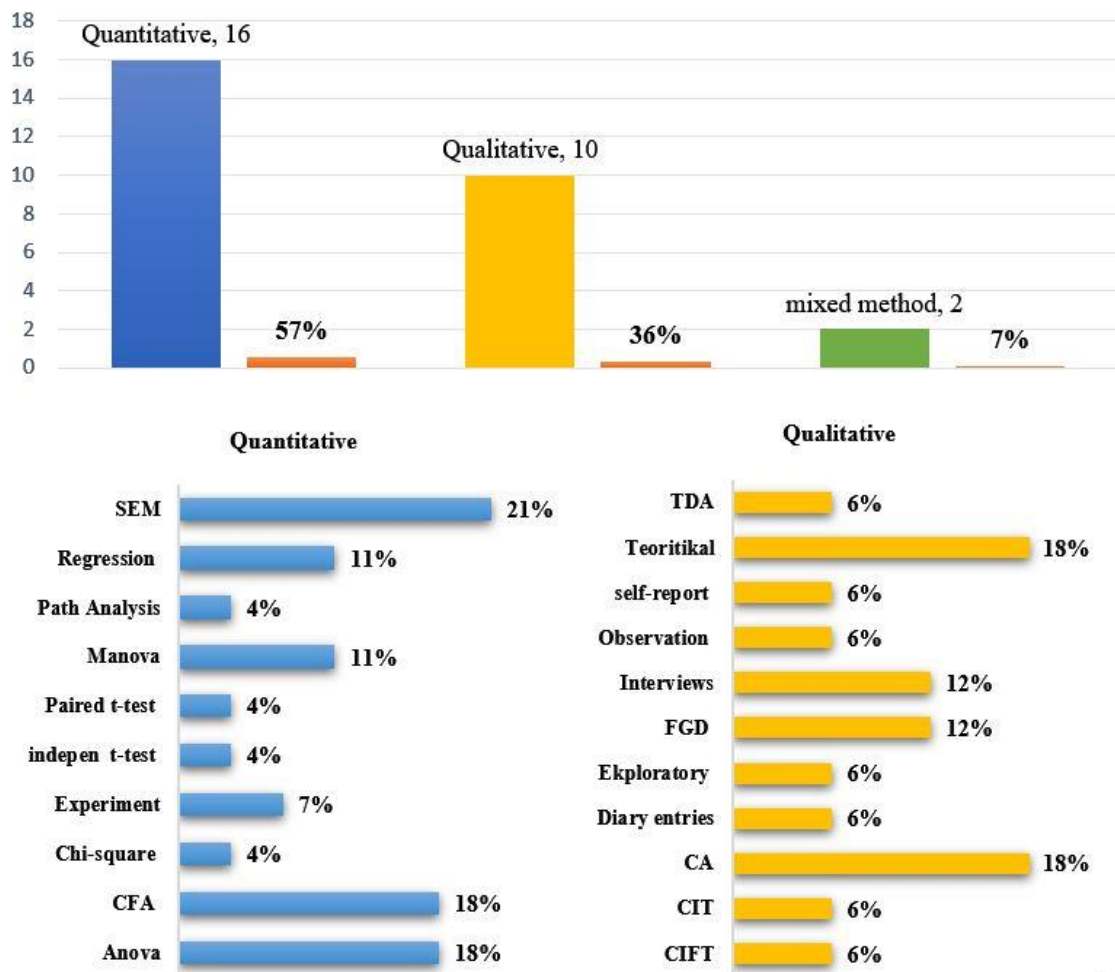


Figure 2. Distribution of research approaches and analytical techniques  
 Note. CA: content analysis; FGD: focus group discussion; TDA: textual data analysis; CIFT: Critical Internet Feedback Technique; CIT: critical incident technique

### 3. 4. Classification of Research Subjects

The research subject of customer frustration is not so extensive; mostly still focus on tourists, computer users, and airline passengers. Most frustrations occur because marketing programs (for example, customer loyalty reward programs that offer certain rewards) often run not as expected by consumers (service failure). Many online marketing programs that promise certain rewards do not work out which trigger negative emotions (frustration, anger), often found in the aviation and tourism industries.

Table 2. Distribution of research subjects of customer frustration

Method	Publication	Subject of Study	f	%
Qualitative	Journal	Traveler	2	7%
		User's computer	2	7%
		Entrepreneurship	1	4%
		Online services	2	7%
		Internet User	1	4%
		Airline Passenger	2	7%
Quantitative	Journal	Course Business	1	4%
		Mobile Customer	1	4%
		Online buyer	2	7%
		Airline Passenger	1	4%
		User's computer	2	7%
		Consumer retail	3	11%
		Traveler	3	11%
		Online Gamer	1	4%
	Proceeding	Internet User	1	4%
		Airline Passenger	2	7%
Mixed Method	Journal	Traveler	2	7%

### 3.5. Journal Affiliation and Proceeding

Journal affiliation means a place for publishing research articles that frustrates consumers. Seen in Figure 4, the concentration is in the Journal of Electronic Commerce Research and the Journal of Services Marketing. Both journals are business-based journals (marketing and e-commerce). This shows that the concept of customer frustration has become an important part of commercial enterprise and marketing today.

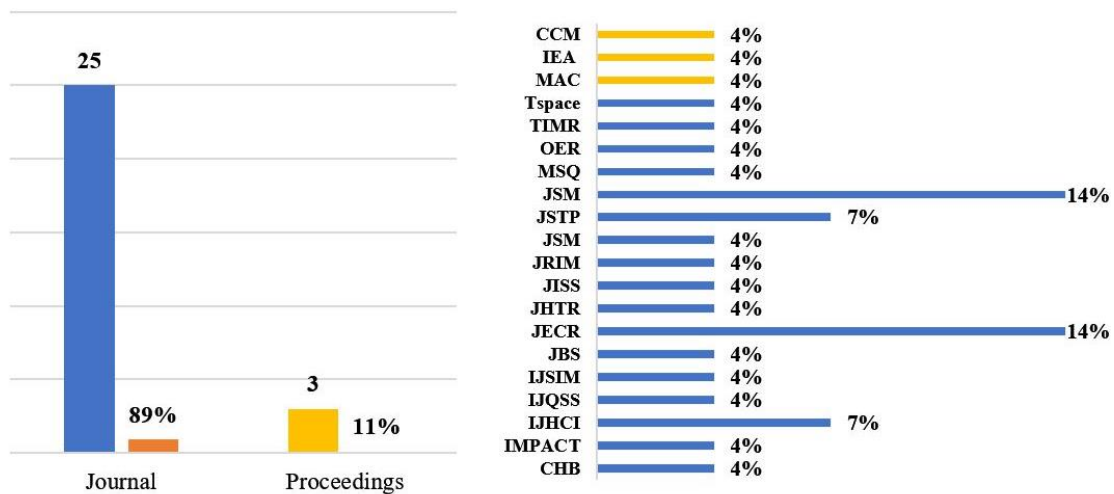


Figure 3. Sources of research publications (see appendix)

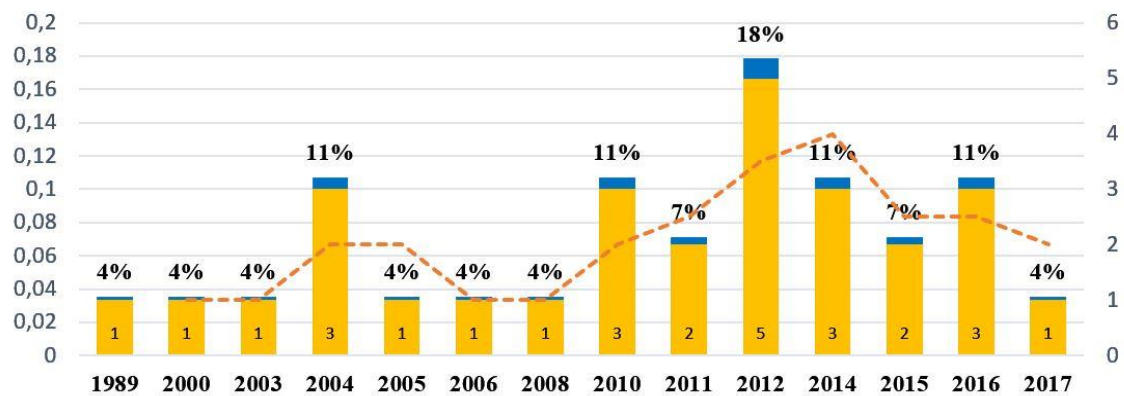


Figure 4. Year of research publication

As Figure 5 shows the trend in the number of research publications on customer frustration has been relatively small since 1989, and there has not been a significant increase in the number of publications until 2017. This term indicates the need for additional new research on the basis that customer frustration is increasingly playing an important role in marketing and computer and internet users.

### 3.6. Identify the Distribution of Research Sites

The research location is the position where the researcher took data and samples on his research. Identification of the placement of the study denotes that studies of customer frustration were mostly located in the United States with (32%), followed by Europe and Asia, and Africa and Australia. Asia and Africa are still sparse areas of inquiry. However, the number of papers whose locations are not identified or do not specify a specific location (NSL) is quite large. This is not identified because most papers get hold of samples online, without being limited by certain regions, therefore samples that meet the criteria can be located anywhere. Besides, several publications do not specify the location of the research

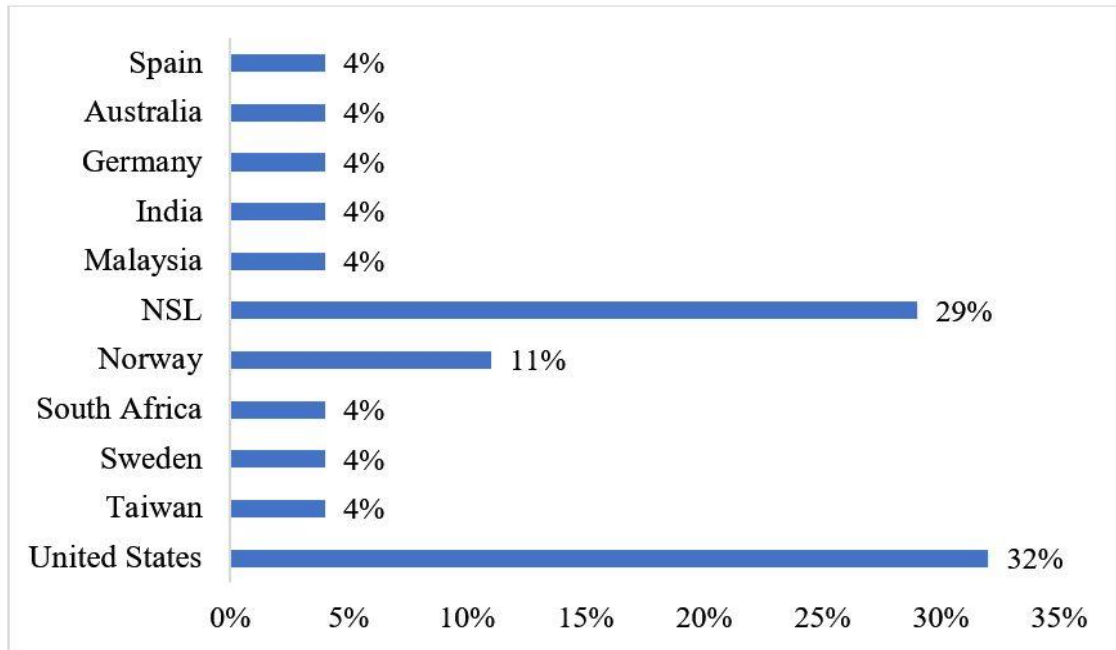


Figure 5. Distribution of research sites on customer frustration

#### 4. Conclusions

Customer frustration is defined as a very negative emotion because the goal of satisfaction is blocked. Efforts to achieve satisfaction can cause a person to become frustrated if his goals are blocked which causes him to lose the potential reward or satisfaction promised. Frustrated customers can behave aggressively.

The research trend of customer frustration is even smaller and tends to decline. The area of frustration research is largely associated with loyalty, service quality, the internet, demographic factors, situational factors and behavioral intention, with dominant research subjects on tourists, computer and internet users, and airline passengers. It is still very open to explore research on other cases and objects and to expand research locations which are currently concentrated only in the United States.

#### 5. Recommendations for future research

The existence of customer frustration in marketing studies is highly needed to bear the latest research to strengthen its position in the study of consumer behavior. We assessed the need to confirm the study area between frustration and dissatisfaction and the behavior of consumer complainant so that each incident can be approached with an appropriate construct. This is a challenge for future research to expand research that

confirms this difference so that the existence of frustration is stronger and is not lost in the realm of research or for practical marketing purposes.

Customer frustration research, in the future can be expanded object studies, subjects (samples and key informants), and research locations that have not previously been studied, including: hotel guests, bank customers, rental customers, online or conventional transportation customers, train passengers fire and ship, workshop customers are examples of frustration studies that have not been done. In addition, to conduct research in the Asian region is likewise recommended due to the lack of research in this area.

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## Appendix

No	Source	Method	Form
1	Journal of Business Strategy	Qualitative	Journal
2	International Journal of Service Industry Management	Qualitative	Journal
3	International Journal of Human-Computer Interaction	Qualitative	Journal
4	Tspace	Qualitative	Journal
5	Journal of Research in Interactive Marketing	Qualitative	Journal
6	Technology Innovation Management Review	Qualitative	Journal
7	Journal of Service Theory and Practice	Qualitative	Journal
8	Journal of Electronic Commerce Research	Qualitative	Journal
9	Journal of Services Marketing	Qualitative	Journal
10	Computers in Human Behavior	Quantitative	Journal
11	Original Empirical Research	Quantitative	Journal
12	Journal of Hospitality & Tourism Research	Quantitative	Journal
13	Journal of Services Marketing	Quantitative	Journal
14	Journal of Innovation in Social Sciences	Quantitative	Journal
15	International Journal of Research in Business Management	Quantitative	Journal
16	Journal of Electronic Commerce Research	Quantitative	Journal
17	Journal of Electronic Commerce Research	Quantitative	Journal
18	Journal of Services Marketing	Quantitative	Journal
19	International Journal of Human Computer Interaction	Quantitative	Journal
20	Managing Service Quality	Quantitative	Journal
21	Journal of Service Theory and Practice,	Quantitative	Journal
22	Journal of Electronic Commerce Research	Quantitative	Journal
23	International Journal of Quality and Service Sciences	Quantitative	Journal
24	Proceedings of the IEA 2000/HFES 2000 Congress	Quantitative	Proceeding
25	Center for Consumer Marketing	Quantitative	Proceeding
26	Proceedings of Australian & New Zealand Marketing Academy Conf	Qualitative	Proceeding
27	Journal of Services Marketing	Mixed	Journal
28	Journal of Service Management	Mixed	Journal