

Social Media Communication in European Airlines

Completed Research Paper

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Abstract

We investigate the state of the art of European airlines' communication with today's Millennials by the means of new opportunities offered by social media services. Based on Media Synchronicity Theory, a survey is conducted among members of these so called digital natives to reveal insights on their awareness raised by corporate social media appearances of the ten most important European airlines referring to passengers. Besides the analysis of main elements that affect the customers' decision-making when purchasing a flight ticket, the social media presence and respective communication strategies of these companies are examined. In the empirical part, a cluster analysis was conducted and results reveal significant differences between identified group clusters regarding the awareness of the airlines' social media efforts. This paper recommends different approaches to address the specific segments within the Millennials and sheds light on topics for further research.

Keywords

Social Media Services, European Airlines, Cluster Analysis, Media Synchronicity Theory, Millennials

Introduction

In April 2010, the eruption of the Icelandic volcano Eyjafjallajökull brought the air traffic over Europe to an absolute standstill and our fast-paced, well-connected world stalled for a few days. Thousands of flights were cancelled and millions of passengers stranded at the airports – in urgent need of getting the latest flight status updates. Communication via traditional channels, e.g., service desks or telephone hotlines, and even newer ones like company websites and information screens could not satisfy the customers' needs appropriately. When delays and cancellations reached its peak, not only call centers were “flooded with requests” but even these airline websites were “updated far too slowly” (Nigam 2010). This extraordinary challenge motivated many prominent airlines to rethink appropriate real-time communication tools in order to be able to inform customers on the current state of affairs effectively. A sudden transition into the age of social media services was inevitable for some airlines subject to this urgent need of communication channels that can be used to reach customers all over the world instantaneously and to deliver undistorted messages.

Nearly four years after the unexpected incident in Iceland, a coordinated online appearance and an active use of social media services are generally supposed to be of vital importance. Thus, they should be an essential part of airlines' communication strategies, especially due to a permanently increasing level of flight operations worldwide. In this research paper, we first figure out leading social media services and classify them into corresponding categories of Media Synchronicity Theory (MST) by Dennis and Valacich (1999). This theory builds the fundament of this study and is applied to validate communication effectiveness of certain social media services. The results of this classification help us to argue whether it is worthwhile for an airline to adopt a certain social media service for instant communication or strategic

online presence. We then identify the ten biggest European airlines referring to passenger numbers and analyze if they have established successful communication strategies for these services.

The empirical part of this paper deals with the users' perception of the communication strategy followed by the airlines within the social media environment. A survey conducted particularly among customers of a highly important target group associated with social media, the Millennials¹, helps to reveal which elements affect their usage most. To gain deeper insights, a hierarchical cluster analysis is calculated to identify customer groups with different needs in terms of flight information and services offered via social media services. We use these results to give recommendations on how airlines should handle different target group sections, and finally answer the main research question addressed in this paper:

How successful are the social media communication strategies of European airlines in targeting the customer segment of Millennials?

Theoretical Background

Definition and Classification of Social Media Services

Following the definition of Kaplan and Haenlein (2010), we understand Social Media Services as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content”. Social Media, therefore, is about creating and exchanging self-created content like posts, photos, or videos. Another distinction is to be made regarding the audience of the published content. Heidemann et al. (2012), following Beer (2008) and Boyd and Ellison (2008), differentiate content-oriented sites (like YouTube or Twitter), that focus more on content than on user interaction, from user-oriented sites (like Facebook or LinkedIn) which “allow individuals to [...] construct a [...] profile within a bounded system, [...] and] articulate a list of other users with whom they share a connection”. The main difference between both types lies in the limitation of sharing information, either within the boundaries of approved connections of profiles (user-oriented sites) or without any limitations visible for every Internet user (content-oriented sites). Kaplan and Haenlein (2010) point to the reasons for these findings because they classify user-oriented sites by a higher level of self-disclosure than content-oriented sites or ‘content communities’ in which usually only basic information is shared.

Corporate Social Media

With the general adoption of social media services in private life, they became a very powerful, fast, and efficient communication tool and a very promising opportunity also for companies to interact with their customers. Using these new marketing channels, companies are able to communicate directly with their customers, employees, and business partners in order to promote their brand (Pankin 2010). The analysis of airlines' communication strategies within this research paper directly falls into the section of corporate social media service.

Media Synchronicity Theory

First introduced in 1999 by Dennis and Valacich, “Media Synchronicity Theory (MST) focuses on the ability of media to support synchronicity” (Dennis et al., 2008). The authors oppose that in contrast to the well-known Media Richness Theory (Daft and Lengel 1984, 1986), two primary processes are important to compose communication. One process is *conveyance* which describes the dissemination of previously unknown information and aims at addressing as many relevant and involved participants as necessary to allow them to understand a situation (Dennis and Valacich, 1999). This process primarily represents the transmission of huge amounts of raw information that need to be interpreted by the receivers. Therefore, the required *level of synchronicity* is significantly lower but at the same time, one can expect information to be of high quality at the end of the process due to more people involved in their interpretation. Besides quality aspects, Dennis et al. (2008) constitute another type of process within their MST development:

¹ Millennials: Digital natives born between 1980 and 2000

Convergence processes can be characterized as less cognitive but mainly velocity-orientated and cover functions that are able to transmit smaller pieces of more abstract information.

The authors of MST underline that the most important issue within communication processes is to establish a “shared meaning of information” between all participants within a communication environment regardless the information’s content itself to overcome equivocality and uncertainty (Dennis and Valacich 1999). To categorize the adequacy of a certain communication tool, they extract the five “transmission capabilities” *Transmission Velocity*, *Parallelism*, *Symbol Sets*, *Rehearsability*, and *Reprocessability*. We mainly focus on *Transmission Velocity* and *Parallelism* in this study as we think they’re most important to classify rather new types of communication tools like social media services. For better understanding of our research, we include the original definitions of these two constructs stated by Dennis et al. (2008) which can be traced back to Shannon and Weaver (1949). They understand *Transmission Velocity* as “the speed at which a medium can deliver a message to intended recipients” and *Parallelism* as the “number of simultaneous transmission that can effectively take place” in a medium. Both constructs will be applied to the later identified, most important social media services.

Research Method

General Survey Setting

To identify users’ perception of the communication strategy that is followed by certain airlines, we developed a questionnaire and disseminated it to the relevant target group. This questionnaire is divided into four sections that follow the funnel approach design, starting with rather general questions on demographic and socioeconomic data like, age, gender, or nationality (Hair et al., 2011). The second section of the questionnaire is dedicated to getting insights on the respondent’s flying behavior. Specifically we ask for the amount of flights the respondent took in 2013, how many of those flights were inside of Europe, how many different airlines were chosen and what the preferred means to book a flight are.

The third section of the questionnaire is designed to gather information on the reasons for the selection of flights and airlines. We ask the respondents to assess in how far service elements (such as *price*, *time of departure* or *arrival*, *direct flight routes* or *other factors*) or the membership in an *airline loyalty program* affect their choice of an airline. The fourth section contains questions referring to the respondents’ general usage of social media services and their connection with airlines via these services. We ask them to state if they have personal accounts on social media services and, if so, their activity level of each profile. In addition, the respondents are requested to answer in which way their general flying behavior influences the way s/he interacts with corporate social media profiles of airlines. Finally, we ask if and which airline accounts they are following and if they have ever contacted an airline via social media communication.

As mentioned in the introduction, we concentrated on Millennials as our main target group due to several reasons. First, it is necessary for the purpose of this research to reach a group of respondents familiar with social media services, and second with a potential budget they can spend on flying. Even though this setting might be subject to a group bias, we think that our sample is reasonable for this explorative study. Millennials fulfill both requirements as these digital natives are an important group of consumers (Bergh and Behrer 2013) and are often characterized as “being discerning [...] with a high disposable income” (Collins 2011). It will be necessary to include other target groups in additional studies based on these results. The general topic of this research paper and its leading research question can be classified into the virtual world. Hence we focused on participants with access to the internet and created an online version of our survey. The link was distributed throughout social media services, online newsletters, as well as several offline communication channels including notices with QR² codes to overcome potential technical barriers. However, still some potential customers might not be addressed by online questionnaires as technical issues can occur or unguided users might struggle with incomprehensible questions (Stopher 2012; Hair et al., 2011).

² Quick Response Code: Black and white barcode which can be scanned with e.g. smartphones

Identification of Mostly Used Social Media Services

In order to analyze the social media usage of our respondents within the fourth section of the questionnaire, we had to identify the main services being used worldwide. For an appropriate analysis which is mainly based on the number of monthly active users, we took two different rankings into account:

The eBizMBA (2013) ranking of the *Top 15 Most Popular Social Networking Sites*³ combines the “constantly updated average of each website’s Alexa Global Traffic Rank, and the U.S. Traffic Rank from both *Compete* and *Quantcast*”. This ranking focuses on the average exchange between the website and the user by measuring “the amount of data sent and received by visitors to a web site” (HWZ, 2013). On the contrary, the original Alexa ranking³ is based on traffic ranks and page views. This kind of measurement is in line with our theoretical concept of this study as MST addresses these exchanges of data and its transfer into information, e.g. regarding updated flight schedules via social media services.

The study on *The Most Valuable Social Media Brands 2013* derives its ranking from factors focusing on corporate sustainability like the networks financial situation and its reputation as well as “brand awareness” or “loyalty” (HWZ, 2013). We factored this ranking into our analysis because of its different approach of ranking social media services.

We combined both rankings and calculated an index based on the sum of both ranking positions of each social media service. Results presented in Table 1 show an overview of those seven derived social media services which are most important in terms of our index:

Services Ranking	eBizMBA	HWZ/BV4	Index Value	Position
Facebook (www.facebook.com)	1	1	2	1
Twitter (www.twitter.com)	2	3	5	2
LinkedIn (www.linkedin.com)	3	7	10	3
Google+ (plus.google.com)	6	9	15	4
Pinterest (www.pinterest.com)	4	24	28	5
Instagram (www.instagram.com)	7	22	29	6
YouTube* (www.youtube.com)	–	2	–	x *
* YouTube was not listed in the eBizMBA ranking, but ranked 2 nd in the original Alexa rankings and was therefore considered.				

Table 1. Index Ranking of Seven Most Important Social Media Services

These seven identified social media services can additionally be divided into different types which effect various “properties and capabilities” (Wattal 2010) at the user’s side. *Facebook*, *Google+* and *LinkedIn* are considered as *social networks*, *Twitter* as a *microblogging service*, *Pinterest* and *Instagram* as *picture-sharing services* and *YouTube* as a *video-sharing service*. We classified these extracted social media service types with the help of the two MST categories *Transmission Velocity* and *Parallelism* into conveyance-orientated or convergence-orientated communication tools (Table 2).

³ <http://www.alexa.com/topsites>

Services MST Category	Transmission Velocity	Parallelism	Classification
Social Networks	Medium-High	High	Conveyance & Convergence
Microblogging Services	High	Medium-High	Convergence
Picture-sharing Services	Low	Low	Conveyance
Video-sharing Services	Low-Medium	Medium-High	Conveyance & Convergence

Table 2. Classification of Certain Social Media Service Types into MST Categories

This classification indicates that microblogging services like *Twitter* should be primarily used for simple pieces of information that have to be delivered immediately, e.g., flight status updates as mentioned in the introductory example. Meanwhile, picture-sharing services are more useful for longer discussions and conversations. Social networks and video-sharing services are a hybrid type with implemented functions serving both conveyance and convergence elements and can be used in both communication scenarios. Especially dominant services like *Facebook* and *YouTube* in their respective type category attract synchronous as well as asynchronous communication.

Airlines in Social Media Services

Besides the analysis of important social media services, it was necessary to identify the main actors in the airline industry. We concentrate on the European market within this study, due to the enormous size of the global aviation industry. However, our empirical setting is designed to be easily applicable for additional regions like North America or Asia.⁴

A ranking of global airline groups by revenue was consulted first (Ishak, 2012) and all European airline groups extracted later out of this listing. This resulted in eight superordinate European airline groups serving as parent companies: *Lufthansa Group*, *Air France-KLM Group*, *IAG (International Airlines Group)*, *Turkish Airlines*, *Ryanair*, *SAS Group*, *EasyJet*, and *Air Berlin*.

But instead of these airline groups, this study concentrates on individual airlines because most of them operate under their own name and are thus better recognized by passengers or participants. Therefore, all groups were examined and the most significant airline members referring to passenger numbers were filtered out. The Lufthansa Group was split up into its main members *Swiss Airlines* and *Lufthansa*. The same procedure was applied to *KLM-Air France* that is listed as *KLM* and *Air France* separately. Other groups were subsumed under the generic term of the group's most substantial airline: *IAG* (containing *Iberia* and *British Airways*) is listed as *British Airways*, *SAS* (besides containing other less important Northern-European airlines) was examined as *Scandinavian Airways* in order to name only the most meaningful and renowned airlines of each group. Proceeding in this way, ten main European airlines emerge and are listed in Table 3:

Airline	Country of Origin	Parent Group
Lufthansa	Germany	Lufthansa Group
Swiss	Switzerland	Lufthansa Group
KLM	The Netherlands	Air France - KLM Group
Air France	France	Air France - KLM Group
British Airways	United Kingdom	IAG (International Airlines Group)

⁴ Additional information are provided in the *further research* section

Turkish Airlines	Turkey	Turkish Airlines
Ryanair	Ireland	Ryanair
Scandinavian Airlines	Sweden	SAS Group
EasyJet	United Kingdom	EasyJet
Air Berlin	Germany	Air Berlin

Table 3. List of Ten Most Important European Airlines

Cluster Analysis for the segmentation of respondents

In addition to the analyses on an individual level, a classification into homogenous groups is also applicable and could reveal essential results for marketing and communication purposes for the identified airlines. To “identify natural groupings of the customers even with complex data”, a cluster analysis is the preferable analysis method to separate the respondents into homogenous groups (Churchill and Iacobucci 2010). By addressing each of the resulting clusters differently, referring to their characteristics and preferences, a higher conversion rate from a potential into an actual customer can be expected. Therefore we are going to apply a cluster analysis that facilitates a separation of the respondents based on the results primarily of the first and fourth section of our questionnaire.

Analysis and Results

Descriptive outcomes on individual level

The link to our online survey was accessible during a period of three weeks in October 2013. We finally received 454 responses of which 403 were complete and correctly filled out. Out of these 403 respondents, 24 indicated that they did not take any flight in 2013. Due to the fact that they are not comprised within the targeted customer group of the airlines, we exclude them from the further analysis. Data reliability was checked with a t-test and we had to refuse four more respondents because their response behavior was not significant on the 1% level of significance. Consequently, a final sample size of n=375 valid participants were included into further analyses. The demographical structure of our sample is summarized in the following Table 4:

Category	Attribute
Age	24 years
Gender	53.7% female, 46.3% male
Nationality	79% Europeans (incl. 42.1% French, 14.8% Italian, 14.6% German)
Budget	200-300€

Table 4. Demographic Survey Results

Results of the second questionnaire section can be used to contrast the number of flights with the number of different airlines chosen. The respondents took 6.5 flights on average per year with 3 different airlines. Section three reveals insights on the key elements of airline services that affect the decision-making process of the sample group and that serve as indicators for airlines on which element to focus in their communication. Regarding the respondent’s airline loyalty and booking preferences, a majority is not a member of any airline loyalty program (58%). Furthermore, the sample group prefers to book flights online and directly on the airline websites (73.07%)⁵ rather than with the help of price comparison websites (42.67%). During the purchasing process of a flight, price is the dominant element affecting the

⁵ Multiple options could be marked for all questions of the following section

decision-making process (98.7%), followed by departure and arrival times (78.9%) and availability of non-stop connections (48.5%). Other services like offered meals or snacks (6.4%) do not play an important role or – in case of possible online check-in options (11.7%) – are already recognized as standard features.

In line with the dominant role of the social network service *Facebook* (see previous chapter), almost all of the respondents (98%) have a Facebook profile they visit at least once a day. The other social media services included in the survey are not as popular: The professional social network LinkedIn reaches 81%, but the other social network services are less frequented and less personal profiles exist. On this individual level, results show that only few participants are connected to airline profiles on any of the included social media services. If respondents are connected to airlines, they usually follow EasyJet, Air France, and Lufthansa on Facebook.

The analysis of the whole sample group shows that the respondents' answers cover a very large range and the total sample therefore has to be considered as a very heterogeneous group. Regarding their birth year they cover nearly the whole Millenials era with birth years from 1980 to 1994. Respondents' monthly budget covers the whole spectrum between less than 100€ up to more than 500€, and the total flights taken in 2013 oscillate between only one flight up to 70 flights. Therefore, empirical results confirm that a cluster analysis is advisable in order to divide the respondents into more homogenous groups according to their flying behavior and into addressable target groups for airlines.

Cluster Analysis – Rational Flyers, Occasional Flyers, and Frequent Flyers

Several different options are provided to conduct a cluster analysis, mostly separated into hierarchical and non-hierarchical methods. We chose a hierarchical procedure in this study with an agglomerative bottom-up strategy, considering each participant as one cluster at the beginning. The main advantage of this approach is that “neither determination of the number of clusters nor selection of the initial cluster centers” (Dziuda 2010) is required. This is important as the best amount of clusters was unclear at the beginning of our analyses due to the very heterogeneous target group. Following the bottom-up procedure, individual clusters were merged in several steps with the Euclidean distance measurement and the Ward's method as linkage process.

We decided to use the Euclidean distance as it is one of the most reliable and established procedures (Mooi and Sarstedt 2011). It is advisable due to its characteristic as commonly used measure that allows analyzing ratio, interval-scaled data, as well as ordinal data with equidistant categories. To fulfill these requirements, some nominal-scaled variables had to be transformed into dummy variables first. We used SPSS to convert them into several dichotomous variables and used z-standardization additionally to ensure equidistance. This calculation was also important because Ward's approach includes a minimum variance criterion to compare cluster elements (Ward 1963) and different scales would have adulterated our results. After preparing our data, we calculated the hierarchical cluster analysis using SPSS.

In order to visualize our results and to decide on the most meaningful number of clusters, we used the corresponding dendrogram (Figure 1) at first. Results indicate an appropriate distribution and suggest a solution between two and six clusters.

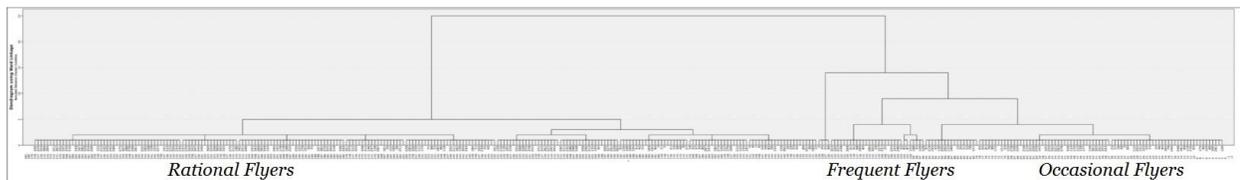


Figure 1. Dendrogram of the Hierarchical Cluster Analysis

We then used the scree plot in combination with the dendrogram to decide on the most meaningful number of clusters (Everitt et al. 2001). Figure 2 combines the number of clusters on the x-axis against the difference of the coefficients between the clusters on the y-axis. It visualizes the “distinctive break (elbow)” from which on the clusters' homogeneity increases significantly (Mooi and Sarstedt 2011). In our case the level of heterogeneity or distinction between the clusters decreases if the number of clusters is higher than four. Thus we decided on a 4-cluster-solution as is it most advisable for the analysis of the survey.



Figure 2. Scree Plot of the Hierarchical Cluster Analysis

The cluster analysis based on four different clusters revealed one cluster of only four cases. The analysis of these 4 cases identified them as statistical outliers due to the fact that on average they took 66.5 flights in 2013, which means, that at the end of the data collection phase, they took round about 6 flights a month. We are going to exclude them from the further analysis process within this study as more cases would be needed to receive valid results for this specific passenger group. Hence, we continue additional analyses with three main clusters of different size. The biggest sample group has a size of 259 participants, the second largest contains 82, and the smallest one 30. This result is quite common and in line with the literature as natural occurring clusters are usually not equally distributed (Stopher 2012). The main characteristics are listed in Table 5:

	Rational Flyers	Occasional Flyers	Frequent Flyers
Cluster Size	n = 259	n = 82	n=30
Nationality	French, Non-European	French, Italian, German	European (mixed)
Flights per Year (total)	5.12 (sd: 2.58)	13 (sd: 3.50)	24 (sd: 7.61)
Flights per Year (in Europe)	3.39 (sd: 2.28)	8.67 (sd: 3.73)	20.5 (sd: 7,68)
Monthly Travel Budget	200€ – 300€	300€ – 400€	400€ – 500€

Table 5. Characteristics of the Three Identified Clusters

The first cluster is the largest one covering two-thirds of the sample group (n=259). The majority of this group (73.8%) is either French (47.4%) or Non-European (26.1%). Members of this cluster on average fly 5 times a year, 66.6% of which are within Europe. Therefore, we label this cluster *Rational Flyers*. Regarding the monthly available budget, this group is in the weakest financial position with a budget between 200€-300€ available on average. They are very price-sensitive in terms of fares. Additional fees and safety concerns (50%) influence their choice of an airline more compared to the other clusters. Regarding the airline social media communication, they are predominantly connected to Air France, Lufthansa, and EasyJet using Facebook. This social media service is used actively on a daily basis.

The second cluster (n=82) is named *Occasional Flyers* and comprises respondents mainly from France (34.7%), Italy (24.2%), and Germany (18.9%). On average, members of this cluster take 13 flights per year; 64.9% of those flights are inside of Europe. They are relatively loyal to airlines and book their flights mainly directly on the airline website while emphasizing the importance of *departure and arrival times* of their flights. Although this cluster provides a higher monthly budget of about 300€-400€ in comparison to the first cluster, all members are very cost-sensitive and consider the price as the key element that affects their choice for an airline (100%). The social media usage level is the highest of all three clusters,

especially on LinkedIn and Facebook, and mainly the appearances of EasyJet (12%), Air France (5%), and KLM (4%) are followed.

The last cluster consists of $n=30$, almost exclusively European participants who take approximately 24 flights a year, with the majority of 87% inside of Europe. They are very loyal to their preferred airline. Results reveal that members of this cluster consider an alternative airline only for every fifth flight. That is why we think *Frequent Flyers* fits best as a label for this cluster. Besides the *fare price*, *non-stop connections* as well as *punctuality* and their *loyalty program membership* affect their choice at most. Almost two thirds (63%) are members of a loyalty program with a strong preference of the Star Alliance (50%). This program e.g., includes *Lufthansa* and *Swiss* in Europe as well as *United* or *Air Canada* in North America. Members of this cluster are thus mostly connected with *Lufthansa*, *Air France*, and *Air Berlin* on *Facebook* corresponding to their loyalty program membership. Additionally, this is the cluster which shows the highest interaction level with airlines via *Facebook* and *Google+*.

In summary, all three clusters, *Rational Flyers*, *Occasional Flyers*, and *Frequent Flyers* show significant differences in their flying behavior, e.g., in terms of frequency and distance (long-distance flights versus short-distance inner-European flights) or their activity with and connection to the examined airlines via social media services.

Corporate Social Media Profiles of Airlines

The final step of our empirical study addresses the analysis of the corporate social media profiles of the examined airlines. As we could identify Facebook as the leading social media service, we consequently focus on official Facebook pages. For us, the total fan numbers and their evolution since January of 2013, the amount of own and user-generated posts on the corporate Facebook pages, the post type distribution, and interactions between respective airlines and their fans are important to verify the level of vitality.

Out of the ten selected airlines, nine maintain official accounts on Facebook, as Ryanair - although improving its social media presence - still has not implemented a Facebook account. Compared to all other investigated airlines, KLM and its partner airline Air France are very well established on Facebook and other social media services. Together, they gather 55% of all fans (Figure 3).

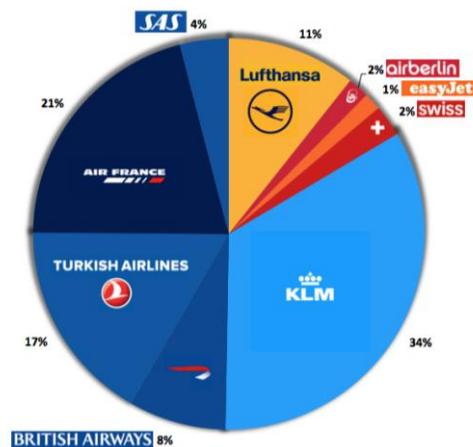


Figure 3. Fan Distribution Among the Ten Main European Airlines

Regarding the change in the number of fans, all ten airlines were able to increase their number of followers during the course of the year 2013. Closer looks at the statistics reveal exceptionally high increase rates of *Facebook* fans. In the period of January-November 2013, *Air France* registered the highest increase in fan numbers with more than 57% although they had started at an already high level in absolute figures (2,758,527 fans in January). *KLM* again stands out in the absolute number of fans gathered in 2013 with more than 2 million new followers of their *Facebook* account. On the downside, it is interesting to note that the biggest German airline *Lufthansa* at the rather low level of fans (1.4 million) lags far behind the field with an increase of only 14.3%.

Regarding the posted content on the pages, we differentiated between own and user-generated posts. In terms of posts by the airlines themselves, most of them on average publish between 6 and 9 posts per week. Only *EasyJet* with 4.1 posts and *SAS* with only 2.3 own posts per week strike out short. While a majority of the airlines' own posts are in the same range, the numbers of user-generated posts vary significantly. Again, *KLM* is the undisputed leader of the field that triggers more than 1,500 user posts per week. The other airlines trigger user posts between 60-340 posts per week with the exception of *British Airways* that is the only airline that does not allow user-generated posts on its *Facebook* page at all. Reason for this might be that the marketing team of *British Airways* manages the *Facebook* page on their own, while for example at *KLM*, a whole team is addressing all social media interactions with a 24 hour service and therefore is able to monitor the appropriateness of user-generated posts.

In order to gain more insights on the posted content of the airlines, we analyzed the post type distribution. Pictures build the majority of posts and *EasyJet* sticks out due to its high adoption of status posts. They address various topics like strike announcements and website availability – which is important with regard to the theoretical foundation (MST) of this study – or marketing-related posts without including any pictures. These empirical results are directly supported by the literature: 93% of social media service users “prefer to interact with photos more than with any other type of post” (Fuleova 2013).

Besides unidirectional communication with users of social media services through the airlines' posts or tweets, it is necessary to analyze how far these elements engage fans to interact with them. Quintly (2013) established an interaction rate index which irrespective of the amount of fans sums up all likes, shares, and comments on *Facebook* per own post. This sum is then divided by the total amount of own posts and fans to standardize the result. *Air Berlin* is leading the field with an average interaction rate of 0.73 meanwhile *EasyJet* with its strategy of also using status posts without photos only reaches a very low interaction rate of 0.24. Additionally, we analyzed the responses of all ten airlines to users' requests within the time frame January-November 2013. According to Quintly (2013), an appropriate way to calculate the response rate is to count all official answers to a user's comment provided by a certain airline. Results reveal that *KLM* responded to almost all comments while the lowest rates are reached by *Lufthansa* (83.8%), *Air Berlin* (82.8) and *Swiss* (59.8).

Based on these results, we could identify *KLM* as the leading European airline with regard to its corporate social media profiles. Especially investments in a dedicated social media team offer them the opportunity of engaging high numbers of potential customers with their posts. On the other hand, other long-established companies like *British Airways* or *Lufthansa* fell behind with their respective communication strategy.

Discussion

Findings and Recommendations

According to Kane et al. (2014) it is still uncertain how newer technologies like social media services can permanently impact organizations and their communication strategies. With our empirical study, we contributed to this field of research by addressing companies within the aviation sector. This sector is of huge importance as demands for fast flight connections between countries increase continuously around the world. The scope was narrowed specifically to the European market to apply our research setting to a smaller environment, with the potential to adopt it within other markets as well.

We first analyzed the most important social media services and identified *Facebook* as a dominant leader both in the European and global market, followed by *Twitter* and *LinkedIn*. Although most airlines were able to increase the number of followers on the identified social media services, the effects of their communication strategies still are not strong enough and could not engage a significant amount of the respondents to interact. Therefore, we recommend especially for those companies that have to regain lost market shares to focus predominantly on *Facebook* and *Twitter*. Individual results and results within each of the three identified clusters confirm this assumption as well as MST, because both *Transmission Velocity* and *Parallelism* would be considered. *YouTube* should be included into communication strategies differently as it is not mandatory for this service to register as a user to gain access to its important functions. Thus, it is difficult for the companies to categorize viewers and to address them

individually with a corporate video channel. However, it is still possible to spread out more general content to a huge number of customers.

In order to differentiate more precisely between social media service users, we conducted a hierarchical cluster analysis which resulted in three clusters named *Frequent Flyers*, *Occasional Flyers*, and *Rational Flyers*. Airlines should use their social media appearances to communicate with all three customer types, but in a different manner. Rational Flyers, who only fly less than five times a year, are very price-sensitive and sometimes emphasize safety concerns. They should be addressed with individual price offers and positive safety statistics. Occasional Flyers are also triggered by low prices, but also fly for fun or recreation purposes. For this cluster, we recommend airlines to focus on the variety of destinations with the help of Facebook posts including pictures. Video-sharing services like *Instagram* and *Pinterest* should follow in a second step. And, in addition, last minute tickets should be offered via Twitter on a first-come-first-serve strategy as our results reveal the highest level of activity within this cluster. For members of the third cluster, the Frequent Flyers, punctuality and a regularly updated flight status is very important. The circumstances in Iceland mentioned at the beginning caused many delays and cancellations and demonstrated the need for fast and dynamic communication processes which could not be offered by most of the analyzed airlines. In order to satisfy these loyal customers, they have to provide flight information immediately and correctly. Especially Twitter with its short messages seems to be most suitable to fulfill this task accompanied by corresponding mobile applications.

All these practical implications are motivated by the Media Synchronicity Theory. We identified the most important social media services, allocated them to superordinate service types and classified them according to the MST categories *Transmission Velocity* and *Parallelism*. With regard to this general MST-based scheme it is now also possible to classify new, upcoming social media services as well. Referring to the initial research question, our results demonstrate that some companies like *KLM* seized their chances and established successful communication strategies for their respective social media appearances while others so far could not capitalize on the new opportunities which come along. In contrary to the social media marketing aim of involving customers into a conversation about the brand and product or offers, most airlines struggle to pursue this aim consequently.

Limitations and Further Research

In this research paper, we focus on the European market with its most important airlines. But especially the aviation sector represents the coalescence between all continents and thus, the study should be spread out to other continents as well, in particular the USA and Canada as these are countries with one of the highest level of flight operations worldwide as well as Asia with huge hubs of international operating carriers. With this in mind, we have examined social media services that are well-established around the world to be able to adopt this research setting to upcoming studies more easily in the future. Technically, the economic sector can be varied, too, in order to study industries other than aviation.

Regarding our target group of the survey, Millennials are suitable to prove the general interest in corporate social media services. However, it has to be clarified whether the results are generally applicable to other samples as well. A widespread setting with an age structure representing all airlines customers would contribute to the findings of this study and possibly reveal additional clusters. In this context, the questionnaire should also be distributed through other communication channels, e.g., offline under the guidance of researchers.

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