Academic conferences promotion process and social media. Modeling of the problem

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Abstract: Social networks are now a crucial part of today's way of life. Academic conferences is another chapter, that give people the opportunity to explore new ideas and share them with the scientific world. Blending those two factors together in order to achieve a main purpose, could give a remarkable effect. The purpose of this paper is to analyze the promotion process of academic conferences through social media and use simulation models to modelize that analysis. The reason the paper was created, is to provide this optimal solution to all those seeking how to promote academic conferences effectively through social media. Thorough research through the paper revealed that social media, nowadays used by millions and millions of users can be successfully used to promote academic papers and with great appeal.

Keywords: Simulation modeling, Social media, Promoting, Academic conferences.

1. Introduction

Social media fever has been widening in every aspect of today's way of life, bringing together social, economic even academic factors [1]. There are many kinds of social media, each one with its own unique style. But every-one has one primary goal. That is, to connect people together. Manipulating that goal for one single purpose could give remarkable results because of the huge amount of people connecting together [2]. On the other hand there is another prestigious factor, the academic world. Someone would ask, how academic community shows its prestige or even how a scientist interrelates with one another. Academic world poses that prestige with the power of academic conferences, a factor that claimed and won a great number of academic scientists, giving them the opportunity to pose their own ideas in the scientific world and widen their knowledge [3].

Simulations are used with mathematical precision to modelize and conduct a real experiment. Why to use a simulation instead of a real experiment? Because no real resources are needed to conduct the experiment and gives real related results.
well-known tool used for that purpose is Anylogic 7.2.0 University, which provides all the necessary tools to simulate a real model [4].

There although is a big problem, a brake if you will in the likes of the scientific world. Every scientist/researcher who seeks to find the admirable academic conference, the one that suits him, needs to search thoroughly through the web to spot the right conference. That search usually doesn’t give the desirable effect. It is even more difficult for newborn researchers that usually don’t know where to look. What if there was a way, a shortcut that allowed every researcher to know the exact details of the desirable academic conference he needed, easily. That question this paper comes to answer.

There has been many previous studies in social media. More precisely, 3488 the past year and 14897 the past five years. That numbers indicate that social media is a pole of study and appeal in the scientific world. As regarding the academic conferences, there has been referred in 540 the past year and 2916 the past 5 years. Researches that have both academic conferences and social media as factors are just 12, the past year and 59 in the past five years. The part of this study that makes the difference of all the others is the fact that no other study has been conducted to modelize the promotion process of academic conferences through social media and that is what makes this paper unique [5].

The objectives of this study are of vital importance. It uses the social media, now part of everyday life, to promote academic conferences and modelize that process to find the optimal solution.

2. Four main factors comprise the promotion process of academic conferences through social media.

2.1. Blog

Is often called a web log. A page, which can be used as both a personal diary and a social relation tool, pushing a message directly to the public. The user can post entries in reverse chronological order, with the most recent entry appearing first. Today’s modern technology, made blogging to evolve. Interactive features were added, so that videos, images, text, links, even sound clips can be used as a part of the blog. This interactivity allowed the development of multi-author blogs where someone can comment and add content in someone else’s blog. We could say the magic of the blog is that it is free for anyone to create, anytime. Nowadays over 156 million users have a public blog and that makes us think, why not to use it for a better purpose. The answer to this is that, that powerful social tool it is already used for the likes of many purposes. There are blogs for politics, for business, for advertising and more. And here is where the blog factor comes to the paper.

Blogging can be used as a means of promoting academic conferences with great public affiliation. With blogging a company could post the basic details about an academic conference, news and updates, dates, times, contact details, interviews with your guest speakers and reminders to register. In the previous paragraphs links were mentioned. In a blog a link to the academic conference registration page could be attached. More links that a company could use are links to register for email updates and links to other social media profiles, maximizing the blog’s potential [7].

In order for a blog to be created for a company, a programmer is needed. A marketing consultant could be hired in order to provide good advise for supportive media, like videos and images in the blog and in the advertisement field. The blog must have the required support in order to present the basic details needed about the academic conference, details as dates and times, registration pages and other details as explained in the previous paragraph. In the best case, the total fans will be maximized and the company will increase its money amount. Moreover, sponsors
could have a supportive way in the blog. Of course, all that requires the appropriate company resources.

2.2. Event directories

Event directories are something very familiar to all of us. They are typically links that leads to other pages where details about an event are attached. An example of event directory could be the famous social media environment Facebook, where a typical user often is notified about new and upcoming events to attend to.

Extending this idea, why not use academic conference directories for the likes of academic conferences. Though academic conference directories, people could find local academic conferences to attend, connect with others and provide a good overview of all the basic details required for attendees. Other event directories have academic conference categories where someone could list his academic conference in [8].

Like blogging, event directories that belong rightfully to a company, require a specific amount of company resources. Surely, here too the programmer and the marketing consultant play their own parts in order to manage, position and promote well those academic conference directories. Those directories, as mentioned before lead to other pages, to specific categories regarding the conference. For example an event directory could lead to the registration page, another directory to a page regarding sponsors. Those event directories for the academic conferences affect and appeal a number of people.

2.3. Building a community

Nowadays is hard finding someone not having a social account. Facebook, Twitter, LinkedIn and more, are used every hour, every minute, every second of the day. Those social accounts allow their users to create private chatting groups, little communities if you like, where they discuss and share content.

Those communities can be at great use in order to promote academic conferences. With building a community of customers and fans, they can be engaged in discussions and share great content. To take it further, in order to have more people in community groups, the company could comment on blogs, on forums, taking part in Facebook or LinkedIn groups. Making an email newsletter with photos, news and updates about the academic conference and reminders to register could come very handy. Every newsletter subscriber, can become part of the company’s community, provided there is a good content. Think about it as a chain with every part of the chain, affecting the other. If for example the fans of email newsletter are satisfied, more will be subscribed and the wider the community will be [9].

What differs that tactic from the previous two, is the reason that fans are categorized as community, we have the subscribers of the email newsletter that bring a number of fans to be added in the current fan group, reminders to register and the social networks where the company pulls the new group of people searching for a academic conference. Company resources are required to build a new community.

2.4. Promoting sharing and engagement

Using sharing in social networks, something in a blink of an eye becomes familiar to a wide range of people. Actually that kind of sharing is a clever marketing technique. Moreover, most social networks offer some badges or buttons that can be added in the likes of the user.

A company could use those two techniques to promote academic conferences. When sharing information about an academic conference, they could encourage the
audience to share these with friends in order to increase the number of the audience. Even the buttons mentioned previously could come in handy. Those could be added in the company’s website or blog, showing if the company is active online at the moment and help potential attendees where to find you.

Here, the company has the most important role. That is, sharing as much as possible and devote some of the company’s time in answering in the audiences questions through the badges mentioned before. The company in order not to lose important time could hire a person to do that. For sustaining and upgrading the social networks with those badges and for hiring, company resources must be devoted for that purpose. The part of people that brings the profits, are actually the friends of friends of friends, because what happens is actually a chain reaction of sharing a single post [10].

3. Implementation of the dynamic simulation model

To create the models, the modeling software tool Anylogic 7.2.0 University, was used to create stock and flow diagrams to model and simulate processes. It presents you the results of inputs defined by the user and connects the interrelationships between procedures and functions. Outputs can be displayed in the form of graphs and tables. Dynamic simulation model techniques were used to create this model [11].

4. Dynamic simulation model system analysis

This section describes the individual parameters of the dynamic simulation model. Firstly, the purpose of each element used, will be analyzed. Stocks, flows, converters and connectors consist the stock and flow model.

A stock represents the concentration of a quantity, either physical or non-physical.

A flow fills or depletes a stock. The arrow points the direction of positive flow into or out a stock.

There are two types of Connectors. The first is the solid wire, an action link and the second a dashed wire, an information link.

A converter keeps values stable or serve as an external input to the model or convert inflows into outflows through user-defined algebraic or graphical functions [12].
5. Identification and explanation of the dynamic simulation model

The variables identified by the theoretical research are put into practice, by using the Dynamic Simulation Model, to test their success in real environmental conditions [13]. The tank “Company Resources” supplies with resources the four subsystem counterparts consisting of Academic Conference Blog Page, Categories, Sharing and Engagement and the Community subsystem. These resources are available in order to execute the related activities and to satisfy leverage.

The trail of thought followed, in order to create the model is called storytelling. Storytelling is the main characteristic of Anylogic 7.2.0 University simulation model. Every stock of the simulation model succeeds its previous one like unfolding a story with every stock being its next succeeding chapter. The direction of action in that storytelling is indicated by the direction of the flows [14].
5.1 Academic conference blog page subsystem

The stock “Company_Resources” provide a percentage of resources in that subsystem. In order to achieve that purpose, firstly that resources are provided to the needed Company_staff, more precisely the company needs a programmer and a marketing consultant and for that purpose a flow from the “Company_Resources” stock to the “Number_of_staff” stock is created. And that’s where the storytelling begins. From the “Number_of_staff” stock two other flows are emerging to connect to the “Marketing_consultants” one and the “Number_of_programmers”. The marketing consultant’s role is to give advises to programmer for creating the pages, so an appropriate flow is created. The programmer is the one to create the event directories and the pages. A flow emerges from the “Number_of_programmers” stock to “Event_directories” and “Pages”. After he creates the page or the pages he will create the blog and then he will add all the details about the academic conference. A flow from “Pages” to “Blog” and from “Blog” to “Academic Conferences” is created. The programmer will then add more specific details about the academic conferences. That is, contact details and the registration page. So two flows are created from the “Academic_conferences” to those two. Furthermore, the programmer will add the appropriate media stuff in that blog page among others. Another flow connects the “Number_of_programmers” with the “Media_stuff”. MS2ACBP, CD2ACBP and RP2ACBP eventually lead to “Academic_conference_blog_page”, which includes all those precious elements. Sponsors will add their resources in that page. So the flow S2ACBP connects to “Academic_conference_blog_page”. Eventually the last lead to the “Satisfaction_academic_conference_blog_page”, an indication of the satisfaction percentage this activity offers.

5.2. Sharing and engagement subsystem

A number of company resources need to be given for the sharing and engagement activity. The flow CR2SAE represents that purpose. According to the theory analyzed, badges and buttons are used to show the online activity and post or answer questions. From the “Badges_and_Buttons” stock a flow emerges to connect with the “Active_online” one and from that other two flows lead to the “Posted_questions” and “Posted_answers” stocks. A second flow, the SAI2PS connects “Sharing_and_engagement” with “Promote_sharing”. That sharing is promoted by interacting with friends and that is the purpose of PS2IWF. The PQ2SSAE, IWF2SSAE and PA2SSAE, all lead to “Satisfaction_sharing_and_engagement”, an indication of the satisfaction of that activity.

5.3. Community subsystem

In that subsystem, a percent of company resources are given in order to create a community. New social networks are created and added in the academic conference blog page. Those are indicated by the C2SN, IWF2AO and SN2ACBP flows. Moreover, commenting is a very successful way of furthering a community, more specifically commenting on blogs serves that. C2C and C2BC are the flows representing that purpose. In the theory analyzed before, email newsletter is a part of the community activity, so a flow from the “Community” stock to the “Email_newsletter” one is created. For a stunning newsletter, photos can be added, news and updates, as pointed in the theoretical analyses. The flows EN2P, EN2N and EN2U, are the ones managing that conjunction. Lastly regarding that subsystem, P2S flow, N2S, U2S and BC2S, lead to “Satisfaction_community”, indication of that activity’s satisfaction.
5.4. Event directories subsystem

The fourth and last subsystem needs its share from the company resources in order to be implemented. A flow from the “Company_Resources” tank to “Event_directories” is firstly created. Event directories are of many categories. ED2C flow points that connection. There are four event directory categories. The sponsors page, the conference details, the contact about the academic conferences and the local academic conferences. Four the categories, four the flows emerging from the “Categories” stock to those our stocks. That four are C2SP, C2CD, C2CATAC and C2LAC accordingly. That subsystem has a satisfaction leverage as the previous ones. To achieve that, SP2S, CD2S, CATAC2S and IAC2S flows that connection to the “Satisfaction_event_directories” stock.

What we observe from the graph in Fig.2, is that the satisfaction percentage as regarding all the four factors, is rising significantly during the first months and then those satisfactions gain stability. We can easily observe that the company resources in the beginning, given in the four leading factors, lead eventually to company resources replenishment in a steady rate and in the same time the four factors are getting a high rise at the beginning but eventually tending to stabilize their resources. In a simple translation, social media as regarding the promotion of academic conferences give successful and very satisfied results.

Figure 2. Satisfaction Academic Conference Blog Page in conjunction with Satisfaction Community, Number of Event Directories, Sharing and Engagement and Profit.
From Fig.3 and the bar-chart, we can observe that the Academic conference blog page bar is higher than the other bars. That means, that the Academic conference blog page factor gives the maximum Profit. The event directories factor/subsystem, gives the least Profit back to the company. In other words, the factor event directories gives minus back-up in the company. That with its turn means that bigger attention should be given in that factor.

In Fig.4, we can observe a pie-chart as regarding the Company Resources and the Profit gained back. As we can see, the amount of Profit gained back, given in percentage is 76.7% more that the 23.3% as regarding the initial Company Resources. In other words, Profit is approximately three times higher than the initial Company Resources lost.
Fig. 5 indicates that the satisfaction given by the academic conference blog page is higher than the other three factors. Next, as regarding the satisfaction level, sharing and engagement subsystem follows. The next satisfaction level belongs to the community subsystem and lastly, the lower satisfaction level belongs to the event directories subsystem.

In Fig. 6 and the time stack chart, we can observe that the Profit gained is in higher level than the Company Resources lost. In the beginning it starts with a high rise for both and then they both gain stability, with Profit much higher that the Company Resources lost.

Fig. 7. Profit statistics in conjunction with Company_Resources_statistics.
Anylogic 7.2.0 University, allows us to give statistic measures of the factors used. Statistic measures become more accurate as the sample number gets higher. Here the sample number equals the seconds passed. As we can see in Fig.7, as the number of samples/seconds, gets higher the percentage of Profit gained tends to become equal as three times the initial Company Resources.

![Figure 8. Time-Color_Chart: Profit](image)

In simple words, the last figure, Fig.8, implies that the Academic conference blog page factor gives the bigger amount of Profit and the bigger satisfaction level in the company.

6 Support for decision makers

The “COMPANY RESOURCES” section allows the decision maker to determine the amount of company resources available in the four other sections. The “SHARING AND ENGAGEMENT” section allows the user to define the satisfaction level, sharing and engagement offers. The “EVENT DIRECTORIES” section provides the user to control the flow regarding those directories. The “ACADEMIC CONFERENCE BLOG PAGE” allows the user to sustain academic conference blog page in a desirable prestige and “COMMUNITY” section allows the user to control community’s range. To begin the simulation, the user chooses all the values of the inputs that are desired, and then clicks the run button. The simulation runs for a period defined by the user and pauses to allow the user to review the effects of the decisions made. Support is provided by the prototype to guide the decision maker through the decision making process [4]. The percentages have been chosen and tested wisely to provide the optimal results and that is indicated by the green lamps. Lowering or rising a percentage leads to a dissatisfaction level and therefore making a lamp yellow or red.
7 Conclusion

The purpose of this research is to record the social media key factors that play a significant role in the promotion process of academic conferences [15]. The development of dynamic simulation models aims to provide an optimal solution for that social media role, in order to bring about the best results of it. In this research, in-depth exploration of key factors is being conducted for the promotion of academic conferences, as well as a complete record of the variables that are directly related to the main variables. Through the theoretical analysis and the comparison of various operations of the model we were able to test with great success, the leading factors [14]. The ultimate aim is the successful promotion of scientific conferences through social media. Our study is a comprehensive attempt to record and develop the scientific variables of academic conferences in social media, which leads to the creation of a strategic model for the successful promotion of those conferences.

References