Raising your Eminence inside the Enterprise Social Network

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ABSTRACT

Companies are motivating their employees to become socially engaged in enterprise social networks as a means to raise employee engagement. This is also beneficial for employees as it provides an opportunity for them to get a voice and raise their eminence. Unfortunately, not all employees are born 'social butterflies' and many have difficulties in becoming more socially active. Failing to engage in an effective manner creates frustration which over time decreases their activity and lowers their chance to become socially eminent. This paper is a first of a kind study that reveals insights on social behavioral patterns of socially eminent employees. We extracted a comprehensive set of tips and recommendations to help employees become more socially eminent and investigate if and how eminent employees engage differently than others. We conducted interviews with top socially eminent employees and a quantitative inspection of bloggers behavioral patterns. Furthermore, we show that indeed best practices stated by socially eminent employees are fulfilled by eminent bloggers and less by others. We also found differences in how socially eminent employees engage compared to less eminent employees.

Keywords

Social Media; Enterprise; Workplace; Collaboration; Social Analytics; Engagement Analytics; Eminence; Best Practices.

1. INTRODUCTION

More and more companies are realizing the importance of having their workforce engaged. Many research studies have shown a correlation between employee engagement and company success in areas such as quality of service and product development, sales increase, employee retention, profit and total shareholder returns [23,14,15,31]. For example, it was shown that highly engaged organizations have a double rate of success compared to lower engaged organizations and have lower absenteeism and turnover [3]. Employee engagement is a strong predictor of positive organizational performance and the more engaged employees are, the more likely their employers are to exceed the industry average in revenue growth [26].

When trying to articulate the characteristics of an engaged employee Markos and Sridevi [26] found that engaged employees

are emotionally attached to their organization and highly involved in their job with a great enthusiasm for the success of their employer. On the other hand, employees who are not engaged may be satisfied, but are not emotionally connected to their workplaces and are less likely to put in discretionary effort. Moreover, employees who are actively disengaged are emotionally disconnected from their work and workplace and might jeopardize their teams' performance [38].

One factor of an engaged workforce, is a collaborative workforce. When examining the power of collaboration, a Google initiated a cross industry survey [12] found that most respondents agreed that their organization would be more successful if employees were able to work in more flexible and collaborative ways. They saw that in the majority of companies that foster a culture of knowledge-sharing and collaboration employee morale and job satisfaction are high. In particular, they found that the third most mentioned serious threat to organizations in terms of people management is a disengaged workforce. They emphasize the importance of choosing the right collaboration tools for the organization.

One way of fostering collaboration in an enterprise is through the use of social media tools within the organization [8, 13, 24, 28, 32]. For instance one of the latest Gartner reports [9] emphasizes the importance of boosting employee engagement with social technologies in the digital workplace. They report that social technologies can assist in many of the factors that contribute to having engaged employees. For example, social technologies can open additional bidirectional communication channels between employees and their managers allowing managers to better see and impact progress and get a real understanding of their employee's role and contribution. Likewise, employees can gain peer recognition to their contributions. In general, employees who are using social networking tools effectively can benefit by getting a voice and reputation in their enterprise.

The Merriam Webster dictionary defines an eminent person as "successful, well-known and respected" [27]. Similarly, we refer to 'socially eminent' as being *socially* successful, well known and respected in the social networking sphere. But, do all employees who decide to socially engage in enterprise social networking sites become socially eminent and gain reputation? The answer is unfortunately not. Social eminence is established by being socially active *effectively* and thus drawing a crowd to one's contributions, having many followers, etc. This can, for example, be measured by how many people and in what manner interact with a person's content through reading, commenting or liking [20].

In the extreme, employees can contribute content that does not draw any attention or they can spam which might impede their peers' respect. One's content needs to reach an audience, to be noticed and to generate reaction. Even more so, employees need to draw people to *follow* them as an expression of interest in their future content.

This way the content creator will become known and eminent in the social networking sphere of the organization. Being actively followed differentiates socially eminent employees from social spammers or social trolls [29]. For example, social trolls' contents generate reaction but not in a positive, leading way. Thus being socially engaged does not suffice to become socially eminent. Being social eminence can then contribute to general eminence which increases positive reputation and leads to influence, promotion and rewards [17].

In this paper we ask the following questions: do socially eminent employees engage differently than other employees using the enterprise social network? Are there best practices and tips that can assist not eminent employees become more socially eminent inside their organization? Are the best practices stated by the eminent employees indeed fulfilled by a socially eminent employee population?

To answer these questions we used both qualitative and quantitative research approaches. Through interviews with top socially eminent employees we learned on their engagement patterns and collected best practices and tips on what they did in order to become eminent and make people aware of their content and expertise within the enterprise social network. We also investigated what they do to maintain their role and why. We then analyzed the behavioral patterns of all bloggers in the enterprise and compared those patterns of eminent with less eminent bloggers in order to investigate whether the best practices stated by the eminent interviewees were indeed fulfilled by this similar population.

The paper is organized as follows. Section 2 provides related work; Section 3 describes the research setting of the interviews and blogger analysis; Section 4 includes results and sections 5 and 6 provide a discussion and conclusions respectively.

2. RELATED WORK

In this paper we identify behavioral patterns of socially eminent employees in an enterprise social networking environment. Holzblatt et al. [16] evaluated the uses and benefits of an enterprise social media platform. They found that the level of value users experienced in using the social platform is related to patterns of users' activity. Active contributors in all areas experienced greater value than both, moderate contributors and readers. In general, readers did not find the social platform beneficial for them, but those of them who accessed the system more, found it more valuable. As they found, not all employees use an enterprise social platform in similar capacity and not all do become socially eminent. They divided employees based on their level of contribution and usage of the enterprise social network and found active contributors are 5% of the population, moderate contributors are 14%, and most 81% are readers. Thus, although companies are realizing the importance of social media in the enterprise, they still have difficulties in onboarding the majority of their employees to become contributors. Some companies try to encourage adoption using different gamification techniques such as points and badges [2, 28, 30, 37]. Interestingly enough, it has even been shown that removing such incentives after they have been used by employees can reduce overall contribution within the social networking system [35].

We refer to social eminence as being socially active in an effective manner that draws a crowd to one's contributions, generates reactions and results in many followers, etc. Literature includes similar related definitions such as being socially reputable, or having social impact [1, 6, 34]. Jacovi et.al [20] examined various definitions of social reputation in particular trustworthiness, influence, expertise, and impact,. They found that impact has the highest overlap with reputation.

In order to be able to draw people to become more socially engaged we tried to understand what motivates employees to become socially eminent. Ehrlich et al. [11] investigated what motivated employees to contribute to enterprise social networks, in particular communities. They found that employees want to help others (but limit their participation to the community directly related to their daily work) and often encourage and draw others to contribute to the community as a way of generating new valued information. Interestingly though, they did not find evidence of contribution in order to enhance online reputation. Chin et al. [7] found self-interest (i.e., enjoyment of helping others and reputation enhancement), knowledge, self-efficacy and time commitment as motivators.

Although many socially engage, only a minority becomes socially eminent. Some studies attempted to investigate interaction patterns with socially reputable employees. Mark et al. [25] found that such employees' network size was the strongest (negative) predictor of employees' ratings by their colleagues, whereas number of followers was the strongest positive predictor [25]. Jacovi et al. [20] similarly found that the number of followers is the strongest indicator to most reputation types and that the network size is the weakest indicator to all types of reputation. For impact, along with number of followers, getting highest levels of responses on blogs and forums are strongest indicators. From this we conclude that eminent employees are likely to have many followers, get high level of reaction to their blogs and forum topics but do not invest time to maintain a network.

But can all employees contribute content that can generate high reactions and become socially eminent? Probably not. We did not find literature that checks this in the enterprise setting but found a few sites that provide tips on how to contribute in enterprise social applications [4] and many more in public social networks [5, 22,3]. We have seen studies describing how people use blogging within and outside the enterprise [10, 4, 17, 19]. In the context of eminence, Singh et al. [32] examined how to attract more readers to blogs in the enterprise.

3. RESEARCH SETTING AND STUDY

This research was conducted using both qualitative and quantitative research methods. The qualitative part included a set of interviews with top socially eminent employees within the company. The quantitative part consisted of an in-depth investigation of the company's bloggers social behavioral patterns.

3.1 IBM Connections

This research was performed over a dataset of an internal deployment of IBM Connections (Connections) [18] within our company. Connections is an enterprise social networking platform which includes several collaboration applications. The Microblogging application enables writing microblogs (status updates) on your own or someone else's wall. Wikis enable co-editing of web pages, Forums allow discussions of topics and Blogs enable posting of blog posts. The Files application supports uploading and sharing of files. Each application enables commenting and liking of its entries as a means to engage over them. People can be directly addressed by using @mention in the text, which results in an email notification of the mentioned people. Content items, especially microblogs can include hashtags to indicate the topics discussed in the post. Communities enable the inclusion of all above applications in the context of a topic or

project. Connections enables inviting other employees into one's network. It also supports following people or content items. Employees are updated through their activity stream or via an email digest on activities of and on their followed people and items. People and content items can be tagged.

The analyses of this paper were performed over a graph populated with all social activities performed within our enterprise in Connections. The data was collected using an API which provides information such as for each item who created it, the people involved, dates and content. During the year preceding this research 453,250 employees performed at least one activity in Connections. Table 1 details the activity across the different applications.

Table 1. Number of Entities and People active last year

Entry Type	Entities created	People active
Blog Posts	449,222	83,491
Forum Topics	283,301	59,043
Wiki Pages	1,018,093	71,400
Microblog Posts	757,049	105,120
Files	3,328,380	153,021

3.2   Interviews

In order to collect tips and best practices on how to become socially eminent through social networks in an enterprise, we conducted a set of interviews. We selected 16 employees who are known to be top socially eminent within our enterprise. Some of them are social evangelists advancing the social platform within the work environment. The interviewees originated from a variety of organizations and geographies.

Out of this set 12 employees agreed to be interviewed. They included 8 males and 4 females from 6 different organizations inside the company. On average they have been working in IBM for 14 years (spanning from 2-25). 5 have customer facing roles, 8 have management roles and the other 4 are regular employees. 5 of the interviewees have started using the enterprise social network in the past 5 years, whereas the others were early adopters and have been socially active inside the enterprise for more than 5 years.

The interviews were conducted face to face or over the phone and lasted 45-60 minutes. An interview consisted of 4 parts. The first included general questions about the employees and their role. The second part focused on their social activity starting point. In particular - when and how they started using the enterprise social network and when they started placing more opinionated content for getting a voice inside the enterprise. The third part focused on their ongoing social behavior meaning how they currently used the rich variety of social applications inside Connections, did they use any special styling to their content? Did they promote their contributions and how? What application generated most reactions to them? The fourth part focused on extracting tips they may have for people that want to get more eminent and on outlining bad practices they have encountered

3.3   Bloggers

In order to quantitatively verify the responses of the interviewees we inspected the set of 41,632 employees who contributed at least one blog entry in the past year into the Connection's Blogs application. This set included employees from 85 countries and all organizations of the company. We decided to focus on bloggers since successful blogging is linked to being reputable [17] or socially eminent.

We divided the bloggers into three groups based on the number of blog entries they posted and the number of comments those received in the past year. This division enabled us to separate between socially eminent bloggers who have gained reputational status from blogging [17] to bloggers that post in similar quantity but whose blogs draw smaller engagement through commenting. As such, we defined the 'eminent' group (EMI) as employees who posted more than 10 blog entries a year that overall received more than 50 comments from others (805). We defined the 'top' group (TOP) as employees who posted more than 10 blog entries a year but got less than 50 comments (3,934). The third group, which we defined as the 'others' group (OTH), included employees who contributed less than 10 blog entries in the past year (36,893).

We extracted a rich set of indicators on these employees' social behavior patterns such as: number of content items they contributed on the variety of social applications, number of comments they replied to, number of @mention they used, etc.

Out of our interviewees 7 classified as EMI, 3 as TOP and 2 do not blog internally.

4.   RESULTS
In the following we describe the results of both parts of the study.

4.1   INTERVIEWS
This section includes a qualitative summary of the interviews.

4.1.1   Starting point
When examining what made the interviewees become active in the enterprise social network, we found that all were intrigued by public social networks (e.g., Facebook, Twitter) and also understood the benefit and value a social network can provide them inside the enterprise in terms of the engagement and increased efficiency of their daily work. One interviewee pointed out that he "wanted to enjoy its power inside the enterprise and do social in a professional way". Another who works mainly from home said that he "wanted to use it to better connect to people that were not in the same physical location" as him. They also stated that they enjoyed the feedback they were getting from their readers. This motivated them to increase their activity.

The social applications the interviewees started with were very diverse where the usage of Wikis and Blogs slightly preceded Microblogs, Files and Forums. Some started their social journey inside the enterprise social network directly with 'opinioned' applications such as Blogs and Microblogs. They were already blogging and active in public social networks and found Connections a useful platform for raising and discussing ideas internally with their colleagues. Interestingly, 2/3 of the interviewees specified that they had an internal role model in these early stages which appears to be a good way to start one's social engagement journey.

4.1.2   Ongoing
We wanted to understand how the interviewees use Connections in their day to day work in order to identify various usage patterns that can be further recommended and applied to other employees.

Regarding the usage of applications at the time of the interview compared to when they started, we found out that the usage of the 'opinionated' applications, increased significantly as well as Files, while the use of Wikis dropped. Interviewees specified that most reactions they received originated from three applications: Blogs, Microblogs and Forums. As one person explained, they can "place provocative statements or offer something or ask for help which all generate reactions".

A content item's impact stems from its reach. Hence we investigated how the interviewees overcame one of the main challenges in social networking - attracting readers to their content. We started by checking their use of 'styling' techniques. As can be seen in Figure 1, they specified mostly hashtags, images and @mention. Hashtags related to ease of searching and organizing one's thoughts, images as a way of grabbing the reader's eye or attention and helping one better relate to the content, and @mention for promoting the content to specific people (and their followers).

Other promotion techniques included posting a microblog with a link to the content at relevant locations (such as a community, blog or on one's wall) and tagging the content for easy finding.
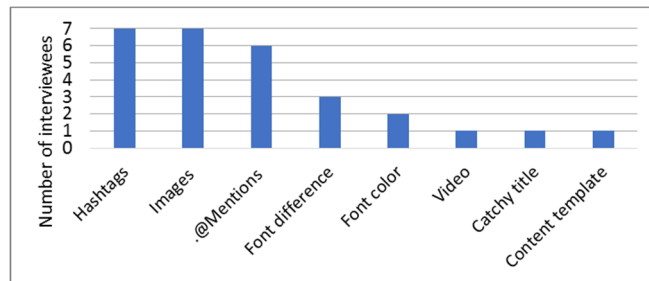

Figure 1. Content 'Styling' techniques

For further eliciting the interviewees' best practices, we asked them to rate the importance of a set of statements in relation to raising their social eminence on a 1-5 Likert scale. The averaged results are presented in Figure 2. From the figure (and also observing the rate distribution) we can conclude the following *recommended* patterns: to be a good social 'citizen' in the enterprise (by responding to comments and liking other's content), to produce quality content and to ensure that it is distributed (through the quality of one's network and mentioning others). Aspects like the time of day or actively promoting one's content got low importance rates. Regarding the latter, most of the interviewees initially claimed they did not promote their content but when they elaborated on how they drew a wider crowd to their content they mentioned various 'promotion' techniques.

4.1.3   Tips and Recommendations

In this section we asked for explicit tips and recommendations for raising one's eminence in the enterprise. Each interviewee was asked to provide 5-6 tips which resulted in a variety of responses. We categorized the tips such that each category includes the essence of the recommendations with some details on the most popular tips.

Get a voice. Most of the interviewees specified that contributing meaningful and unique content is crucial for getting a voice. They stressed the importance of first identifying one's 'social identity' by answering questions such as: who you are, what you want to be known for, what you want to say and how you want to position yourself. Only then to start contributing content that fits that identity. In this stage one should experiment with what topics and styles generate more reaction than others. The interviewees emphasized the need to write naturally and be consistent and positive about the way one exposes oneself.

Interestingly, in this context some interviewees stated that where to start contributing content was not so important (e.g., which application or which community). Moreover, the main message was that employees should stop worrying and thinking everything through but should simply "do it!". Recommended methods varied

from starting a community, asking questions on other's or one's own wall, writing microblogs and more. Some mentioned that shifting from email to Connections was a good step of becoming more social. They stressed the importance of having an up to date user profile as there is no second chance for a good first impression.
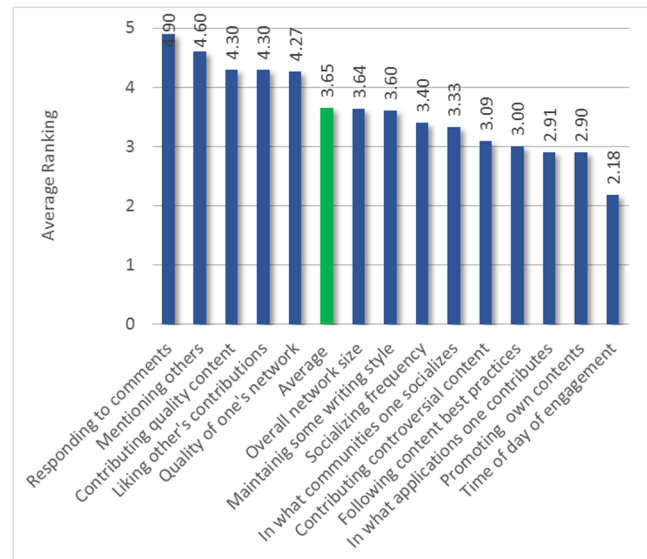

Figure 2. Average rating of importance for raising Social Eminence

Start engaging. In this section two recommendations outran the others. The first was to start by observing and learning other's contributions and responses until gaining confidence and finding one's own writing style. The second was to start the actual engagement with 'passive' methods like liking and sharing other people's content. Interviewees recommended not to be shy and to share information that could interest others while maintaining good quality standards. Some recommended to look at various learning materials such as video snippets and content templates on effective social media usage available online in the company's portal.

Get noticed. Interviewees recommended to search in forums for unanswered questions in one's field of expertise or look for content to contribute that can demonstrate it. Another similar recommendation was to try and identify communities that are of interest in which one can contribute. Others suggested to build a personal landing page (community) to be associated with and contribute one's content to for easier finding. As one person stated "I use blogs to have one point of interaction with my network so they can find my insights easily".

Build and increase your network. About half of the interviewees specified the importance of following interesting people who generate interesting content. Such people could promote oneself in the long run. Other similar tips included adding all co-workers or people with shared interests (e.g., experts on topics one is interested in, leaders in one's field, etc.), to ignore organizational structure and generally use the social applications to interact with anyone one would like. As relationships are built by interacting with people, the more one socializes and responds to other's contributions, the more it increases chances of widening one's network. The importance of monitoring people's feeds for reaching out to a broader network was also suggested. One person stated that "first build a network that you think can help you - overtime you will find yourself helping that network".

Engage with others. Interviewees specified the importance of responding to commenters on one's content as well as "making it a point that you want to hear from others and draw people in by mentioning them and asking questions, and not to socialize for your selfish needs". One interviewee recommended to: "say thank you after getting answers or assistance". Others suggested to use 'like' as an act of appreciation for interesting or useful content and on comments others wrote on one's own contributions.

In addition to general tips for raising one's social eminence we also asked interviewees to provide tips on how to mature from certain limiting socializing patterns.

No readers to one's blog. About half of the interviewees recommended to try to promote one's blog entries by posting links to those on other people's walls and asking for their opinion on the content. Others recommended to take the time and find the right channel to publish (e.g., finding a relevant community). Many interviewees also specified the importance of promoting one's content to relevant people using @mention from within a blog as a way of drawing their (and their followers) attention to it. They recommended mentioning, only when applicable, relevant experts/influencers or people with whom one has shared interests or could be interested in the content. As a rule of thumb "If you cannot find anyone you want to mention rethink if your content is valuable ". Part of the interviewees recommended to take the time to investigate the reasons for not attracting readers to one's content by consulting others or finding the differences to similar blogs. They also suggested to promote the blog by placing a comment pointing to it in other relevant blogs.

Don't know what to say. This situation is common for people who are in their initial socializing attempts. They might either feel they cannot contribute any valuable insight or are shy to do so. Interviewees recommended to look for topics that may be valuable for other people. They suggested identifying such topics by answering question such as: what do you do or are working on, what do you know, what have you discovered, what questions come to you often (e.g. from your team). Some suggested to also look what similar people are contributing to get ideas. Others suggested to start by sharing content in Connections one would otherwise have sent in email. One person suggested not to "start with a long and thoughtful provoking blog" but rather with microblogs and then progress to something bigger.

Using the social network for file storage only. This situation is not optimal as without using other social applications employees are missing the opportunity to draw more employees to their content. Interviewees recommended to promote files contributed via microblogs that include a reference to the file. To those who find this difficult they recommended to use templates like "This file is about … You may want to read it as it …"). Such microblogs have high chance of starting a conversation. Others recommended that instead of sharing a file (with a link) via email to contribute the same descriptive content in Connections as a microblog or comment. Another recommended to write a blog entry that mentions the content of the file and spice it up with more details such as the work that lead to it.

4.1.4   Bad Practices
We tried to identify bad practices or habits the interviewees encountered to understand what behavioral patterns to avoid as they might reduce ones social eminence. The top bad practice mentioned by half of the interviewees was spamming. One person said "don't spam, over-engage or post for the sake of posting" as this behavior can withdraw people from reading and engaging with employees thus lowering their eminence in the long run. The second most

specified bad practice was being unprofessional with people one socializes with. This includes using abusive/aggressive tone in comments, not respecting other's content, and contributing angry or complaining posts. Many interviewees also complained about situations where people responded off-topic, shifting the discussion from its main route. Other bad practices included: mentioning too many people, telling people to like one's blog, not responding to feedback or @mention, and writing flattery comments to executives.

4.2   Bloggers' Behavioral Patterns
We set out to validate the results of the interviews through analysis of the behavioral patterns of different blogger populations (as described in section 3.3). This was done by extracting different data sets on their social behavior patterns and investigating the differences between the groups using various statistical methods. Significance tests between the groups were performed through one way Anova with post hoc comparisons using the Games-Howell.

4.2.1   Application usage.
We first checked which social applications are most or least used by the bloggers population. We quantified the bloggers' textual contributions in each social application by accumulating of the number of content items and comments they created in the last year. 53% of the bloggers used all social applications at least once, 73% used Files and Wikis while Microblogging was used by only about 54% of the bloggers. Figure 3 shows application usage for the three groups we defined. EMI's lowest is Wikis with 74% and the highest (apart of Blogs) is Microblogs with 89%. When comparing EMI to TOP, more EMI use Microblogs (89% vs 72%). Similar levels exist for Forums and Wikis. The opposite can be seen in Files where more TOP use the Files application than the other groups. Thus we conclude that eminent employees use mostly (along with Blogs) Microblogs, Files and then Forum, and less Wikis. This is aligned with the interview findings.
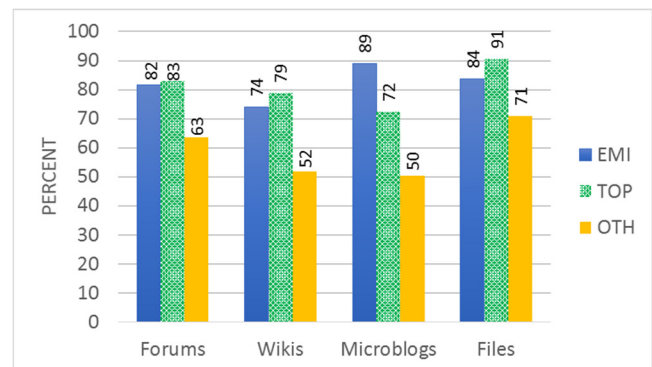

Figure 3. Social Application Usage Percentage

For the entire blogger population all applications are used above average by about 20% thus 80% use them below the average level. Figure 4 shows the percentage of users who used each application above its average usage for the three groups. When comparing EMI to TOP both have similar usage levels of Blogs (above 95%) and Forums (above 41%). The largest difference is in Microblogs where 62% of EMI and only 38% of TOP use it above average. This result strengthens the difference between eminent and less eminent employees as they also microblog more. Only 43% of EMI use Files above average. We assume this is because they feel more comfortable to share their knowledge through blogging.

When examining the significance of the quantity of activities in each social application we found in relation to Microblogs and Blogs applications a significant effect between all groups with p

<.001. For the other applications we found a significance p<0.001 only between EMI to OTH and TOP to OTH but not between EMI to TOP who behave similarly in those applications. The F values are reported in Table 2.
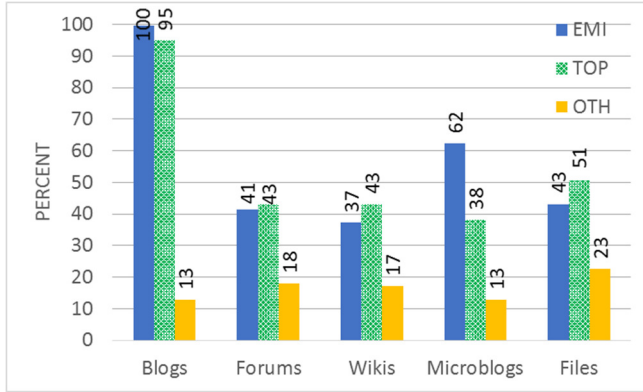

Figure 4. Percentage of Above Average Application Usage

We then analyzed which social applications generate most reaction for the bloggers by summing up the number of likes and comments to their contributions in the different applications and selecting the one with the highest count. Figure 5 shows the percentage of employees that had most reactions per application. As expected from eminent bloggers 90% of EMI got most reactions from their blogs. Only 4% of them got most reactions from Microblogs and 6% from Forums. When comparing this to TOP we see that 58% of them got most reactions from Blogs whereas 24% got most reactions from Forums and 10% from Microblogs.

Table 2. F values of Average Application Usage

	F(2, 41626)
Blogs	10704.01
Forums	331.56
Wikis	390.86
Micro-blogs	338.7
Files	571.61

4.2.2 Behavioral patterns
In the interviews we asked interviewees' opinion on the importance of various behavioral patterns for raising one's eminence inside the enterprise. Following their ordering of the items raised we checked whether eminent employees indeed follow these behavioral patterns and whether others follow them in similar magnitude.

A. Responding to comments

In order to check if eminent bloggers follow the recommendation to respond to comments we first compared the percentage of the bloggers who received comments on their blog entries and responded to those. As can be seen in Table 7 87% of EMI responded to at least one comment on their own blogs. We were surprised to see that only 65% of TOP did so and only 35% of OTH. We expected TOP to have a similar percentage as EMI as they wrote similar amount of blog entries and we would expect them to interact with their audience as well. This emphasizes that 35% of TOP are missing opportunities to engage with people who took time and responded to their contributions. This is one of the most important behaviors eminent employees highlighted in the interviews.
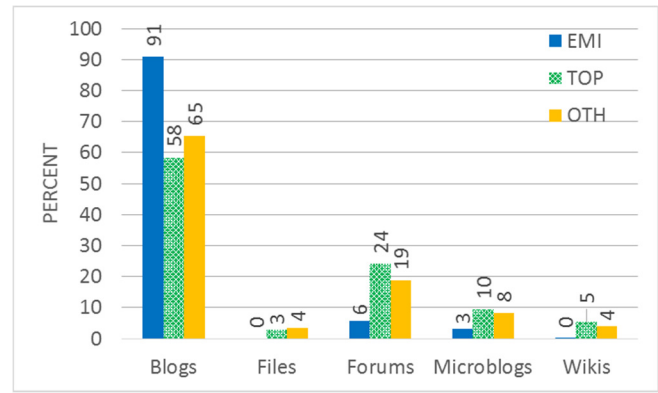

Figure 5. Social Application with Top Reaction Percentage

Table 3. Percentage of Responding to Comments

	EMI	**TOP**	**OTH**
Responded to comments	87	65	35

In order to further inspect the difference between the groups we measured the ratio between the numbers of comments employees received to the number of comments they placed on their blog entries. We examined this only for those who responded at least once. We found a significant effect p <.001 F(2, 7509)=104.54 between EMI to TOP and EMI to OTH with high variance explained as partial Eta squared 0.536. Interestingly, there was no significant effect between TOP and OTH as p=0.94.

A2. Liking other's comments

We also inspected if and how bloggers use 'like' as a way of acknowledging people who commented on their blogs. We computed the percentage of employees from each group that gave at least one 'like' on blog comments others placed on their blog. As can be seen in Table 4, 76% of EMI have 'liked' comments that others placed on their blogs whereas only 39% of TOP did so.

Table 4. Percentage of 'Liking' Other's Comments

	EMI	**TOP**	**OTH**
'liked' a response	76	39	24

We then measured the ratio between the numbers of 'likes' employees gave to comments others placed on their blog entries to the number of blog comments their blogs received. We included only employees that 'liked' at least one response. We found a significant effect p <.001, F(2, 5049)=387.3 between all groups with a high variance explained via partial Eta squared 0.636.

B. Mentioning others

In order to check how employees use @mention we compared the three groups in two manners: the number of times each employee used it and the average number of @mention employees did per microblog they wrote. As can be seen in Table 5, overall 71% of EMI used @mention at least once compared to only 41% of TOP and 19% of OTH. For the amount of @mention, 58% of EMI did more than average amount of @mention which drops to 26% for TOP and 9% for OTH. Interestingly enough EMI did on average 67 @mention a year while TOP did 15 and OTH only 4. We examined the significance between the groups and saw a significant effect between all groups with p <.001 F(2, 9103)= 231.5.

Table 5. Percentage of @mention

	EMI	TOP	OTH
Used @mention	71	41	19
Used @mention more than average	58	26	9

To inspect this further, we looked at how many employees use @mention more than the average number of @mention per microblog. Results can be seen in Table 6. We found similar behavior indicating that EMI use @mention per microblog much more than the other groups.

Table 6. More than Average @mention Usage per Entry

	EMI	TOP	OTH
@mention usage per microblog above average	46	20	11

C. Network

Our interviewees stressed many times the importance of having a quality network and following the right set of people. To better understand if EMI invest in building a network we compared the groups' network indicators.

Figure 6 shows the means of three indicators of the employee networks: overall network size, number of followers, and number of followed people. It strongly highlights that on average EMI have a much larger network, they follow many more people and indeed have many more followers than employees from the other groups. Moreover, on average they have 6.25 times more followers than TOP employees. This emphasizes their eminent role in the company.
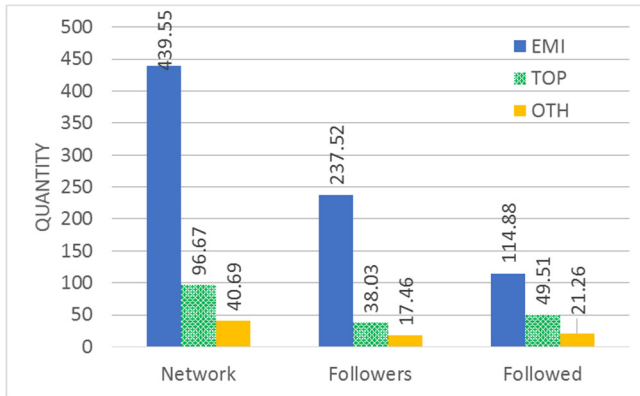

Figure 6. Network Size

We examined the significance of the three indicators between the groups and found significant effect $p<.001$ between all groups for all and that large part of the variance explained. For network $F_{(2, 41629)}= 931.675$ and partial eta squared 0.211. For followers $F_{(2, 41629)}=3508.723$ and partial eta squared 0.217. For followed people $F_{(2, 41629)}=931.675$ and partial eta squared of 0.11.

D. Time of day of the engagement

One of the items interviewees mentioned as not important for raising one's eminence was the time and day they engage. We found this interesting as some studies showed that in public social networks it is important to engage at certain time periods [21].

To examine this we inspected two things: engagement level per week day and throughout the day. When looking at the average engagement level throughout the week we saw similar results across the groups as can be seen in Figure 7. Monday seems most active for all with an average of over 24% of social activity. The other working days have about 14% activity, while the least is about 2% on Saturday. Monday and Sunday have most variance between the groups. EMI are more active on Sundays than the others (16% vs 12%) whereas they are less active on Mondays (24% vs 28%).

We found significance < 0.01 between all groups for Sunday and Monday. On Tuesday and Wednesday there was significance<0.01 between TOP and OTH only. On the rest of the days there was no significant difference between the groups
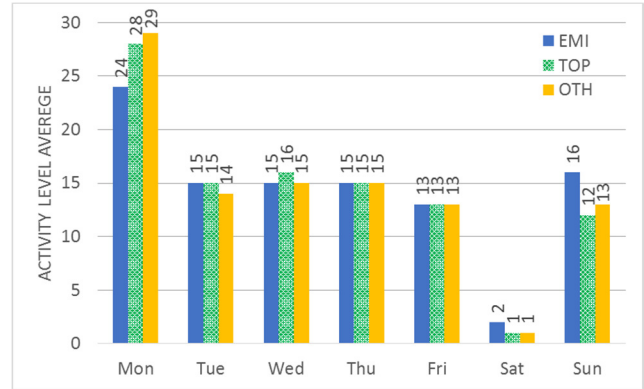
Figure 7. Activity Level by Day of Week

To investigate engagement throughout the day we divided the day into 8 three hour segments. Figure 8 shows the average activity level per time segment. There are slight differences between the groups among all periods. We examined the significance and saw $p <0.003$ between EMI and TOP, and EMI and OTH between 0-3AM and 3-6AM. We saw $p <0.001$ between EMI and TOP between 6-9AM. Between 6-9PM we found $p <0.037$ between all. There was no significance in the rest of the periods.
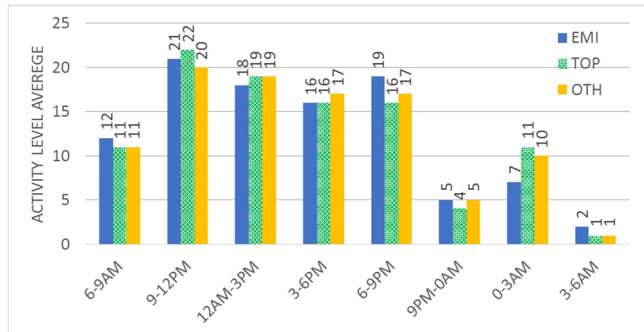
Figure 8. Activity Level by Hour of Day

5. DISCUSSION

In this paper we investigated the behavior of top socially eminent employees in an enterprise internal social network system in order to extract tips and best practices that can help other employees raise their social eminence. This is important both from the employee's and from the enterprise's perspective as being more socially eminent can raise employees' engagement levels.

In the interviews we investigated how socially eminent employees got to their role and what they did to maintain it. When inspecting how they started to be social in the enterprise it was clear that they

understood the benefit and value it can give them inside the enterprise and thus decided to invest time in it. The feedback they were getting from their readers motivated them to increase their activity over time. In their early socializing days, they used a rich set of social applications but over time they narrowed the set to mainly more 'opinionated' applications such as Blogs and Microblogs, along with Files. When we inspected what applications eminent bloggers (EMI) use most we also found that they mostly use Blogs, Microblogs, Files and less Forums and Wikis. We saw that EMI use the 'opinionated' applications significantly more than the other groups but for the other applications there is no significance between EMI and TOP. Not surprisingly, our interviewees stated only Blogs, Microblogs and Files (where Blogs was highest) as social applications that generated most reaction to them which was also verified for EMI. Thus we conclude that in order to be eminent one should start by gaining confidence and contributing more opinionated content. We found it interesting that 2/3 of the interviewees had a role model in their early socializing stage from which they learned or fine-tuned how to become more socially eminent.

When discussing their ongoing social behavior, we learned that socially eminent employees have adopted different 'styling' techniques such as using hashtags, images and @mention. They recommended employees to identify their 'social identity' which includes, among others, testing what styles generate more reaction for them. They also stated that @mention was a useful content promotion technique that can draw people to their content.

In one of the questions we aimed to get the socially eminent interviewees' opinion on the importance of various behavioral patterns for raising one's eminence inside the company. The most recommended patterns were: to produce quality content, to ensure that it is distributed widely, to invest time in building a quality network and to be reciprocal and most importantly to be responsive by responding to comments and liking other's content. To verify their input we set out to check whether EMI employees indeed follow the highly ranked patterns and whether less eminent employees use it less. We first checked if EMI respond to comments others wrote on their content. We found that 87% of EMI responded to at least one comment but only 65% of TOP and 35% of OTH. For the ratio between the number of comments they received to the number of responses they placed we found a significant difference (with high variance explained) between EMI to TOP and also to OTH. Interestingly, there was no significance between TOP and OTH. For the usage of 'like' over other's contributions on one's content, we likewise found that most EMI have 'liked' comments that others placed on their blogs whereas less than half of TOP did so. We measured the ratio between the number of 'likes' they did on other's comments on their blogs to the number of comments others placed. We found a significant effect between all groups with high variance explained. Thus we conclude that eminent employees understand the importance of reacting to contributions over their content and thus dedicate the time to react- if through a comment response or a gratitude 'like'- and that indeed less eminent employees do not follow this recommendation enough.

In our investigation, we also examined if EMI indeed mention others in their content. We found that most EMI use @mention but more than half of TOP and one fifth of the OTH population do not. Moreover, EMI do much more mentions per entry on average than TOP employees. Our analysis showed significant effect between all groups. These results emphasize that socially eminent employees indeed use @mention more than the others as recommended.

Interviewees stressed the importance of having a quality network and following the right set of people. In order to check whether socially eminent employees indeed invest in building a network, we compared the means of the networks and saw that on average EMI have a much larger network, they follow many more people and indeed have many more followers than employees from the other groups. In particular, they have on average 6.25 times more followers than TOP employees. This verifies their eminent role in the company. Not surprisingly, when examining the significance of the three indicators between the groups we found a significant effect between all and high portion of the variance explained. It is important to point out that interviewees emphasized that the quality of the network is more important that its size.

The least important pattern, according to the interviewees, was the time of day in which they use the social applications. When looking at the activity levels during different week days we found that EMI are more active on Sundays than others whereas they are less active on Mondays. We assume this is because EMI are more devoted to social activity and thus do so also on weekends and then have less to 'catch-up' on Mondays. We continued this investigation when inspecting the level of engagement throughout the day. We saw that between 6-9PM EMI are a bit more active than the rest. We found significance between EMI and TOP between 6-9AM and between all groups at 6-9PM. There was no significance in the rest of the periods. From this we conclude that there may be minor differences between the groups where socially eminent employees do more social activity over part of the weekend and perhaps stretch a bit more the social activity at the start and end of the working day.

Another topic we found interesting in the interviews was that the pattern "promoting your content" got a relatively low score from the interviewees although such techniques were mentioned by many when they were asked to provide tips. We suspect that the words "self-promotion" may have caused some negative vibes that make it harder for people to relate to it, or that they don't consider the things they mentioned as self-promotion but rather socializing over their content and exposing it to more people.

In the tips section we got many interesting recommendations which we organized under the following categories: get a voice, start engaging, get noticed, building and increasing the network, and engaging with others. Interestingly enough, although we did not define any specific category of recommendations and we asked for 5-6 top recommendations, we saw many repetitions, some by more than half of the interviewees. Few examples include, contributing meaningful and unique content, finding your social identity, not to be shy and to share information that could interest others while maintaining good quality standards. We also collected a set of bad practices where the most mentioned ones were spamming or being unprofessional with people one socializes with.

Throughout our bloggers analysis we found the comparison between the behavioral patterns of the EMI to TOP and TOP to OTH groups insightful. TOP are employees who contribute similar amounts of content to EMI but have a difference in the amount of engagement they get over their contributions. In interviews we saw that socially eminent employees emphasize the importance of reacting and interacting with people and engaging over their content. This was emphasized in the analysis where we saw that EMI indeed engage more with their audience via responding to comments, liking other's contributions, mentioning, etc. Moreover, for responding to comments there was no significant difference between TOP and OTH. Thus we conclude that to be eminent and maintain your eminent role you need to dedicate time to engage back with your content readers. We believe that the

recommendations given by the socially eminent employees can be of great value for TOP-like employees as they have already overcome the content contribution obstacle.

In this paper we did not inspect additional collaboration platforms that exist in the enterprise, such as email, software development tools, and more. These platforms also generate social traces and they contribute to eminence as well. This is open for future work.

Some employees in the enterprise are expected to extensively use the internal social network as part of their role description. These employees can be perceived as socially eminent although sometimes their social activity stems mainly from their job requirements. Our interviews included employees whose job role did not require them to be socially active by definition. Interestingly, as they got aware of the social networks' benefits they decided to adopt it and even spread the word to their peers.

6.   CONCLUSIONS AND FUTURE WORK

In this study we answered our research questions through a set of interviews with top socially eminent employees in our enterprise social network and a quantitative inspection of different blogger sets behavioral patterns.

This study provides several contributions. First, it is a first of a kind research that reveals insights into a spectrum of social behavioral patterns of socially eminent employees. We learned that socially eminent employees follow various social behavioral patterns that help them better engage with their audience. They build and maintain their social identity by using different styling techniques, they contribute and get most reactions in more 'opinionated' applications such as Blogs and Microblogs, and they understand the value and thus take the time to interact with their content readers and maintain a large network. They enjoy getting feedback from their readers which in turn motivates them to increase their activity. Many had a social role model in their early socializing stages.

Secondly the study shows that socially eminent employees indeed engage differently from other less eminent employees. We show this by inspecting a set of behavioral patterns that interviewees stated as important for raising ones social eminence and comparing eminent and less socially eminent employees some of which have similar activity volumes but are less successful in gaining their eminent role.

Third this research provides a rich set of tips and best practices that if followed can help interested employees increase their social eminence inside the enterprise. The set was built from tips and best practices that were mentioned several times by different interviewees. The latter is very important for both the employees and the enterprise. On the one hand, it can help employees who want to raise their voice inside the enterprise do so with less frustrations and higher success. On the other hand, as they become more socially eminent their engagement increases which is of interest to the company as it can help drive its success.

While our research is limited to a single company using a single social network system, we believe our findings are of importance to other research, social application developers and of course for employees who want to raise their social eminence.

In the future we plan to widen this research by interviewing additional socially eminent experts from other companies who use the same and/or different enterprise social applications to understand if and which of these results are company or system specific. We would also like to compare these results to studies on how socially eminent employees engage in public social networks.

We plan to build, based on the extracted tips and best practices, an innovative personal recommendation system to help employees become more socially eminent in the enterprise.

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