

THE CONTEMPORARY FRAMEWORK ON SOCIAL MEDIA ANALYTICS AS AN EMERGING TOOL FOR BEHAVIOR INFORMATICS, HR ANALYTICS AND BUSINESS PROCESS*

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Organizations can use social media analytics as an effective assessment tool from behavioral perspectives, HR as well as business process to collaboratively build competency framework. The present piece of work is an attempt to put forth social media as a contemporary model in the light of the existing literature. Providing literature reviews, this paper also highlights current practices of social media analytics as to how organizations are accessing vast amount of live data from social media in order to understand work-related behavioral aspects of the employees and their employability for both HR process and the business. The analyzed data on customers is also being taken into account to highlight patterns and customers' sentiments related to the marketing efforts. Furthermore, on the basis of the above presented discussion this paper suggests the road map to how

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organizations can foster the social media practices. Finally, this paper raises some significant plausible research questions to be empirically researched in order to methodically validate or discard the presented framework on this rapidly emerging phenomenon.

1. INTRODUCTION

Social Media is one of the most popular communication media. The exchange of information has become more creative and entertaining than it was earlier. Organizations can innovatively use the social media data to analyze employee centric behavioral information for the organizational perspective. An IBM study shows that analytics-driven organizations have 33% more revenue growth. Performance of a product or a service can be more effectively deduced through analyzing the experience of consumers (IBM Software Group White Paper, 2010). Global trends in the patterns of online social interactive behavior on the web are being established in the academic literature (Gilfoil et al, 2011). Across the globe, organizations are opening up to the idea of usage of social media for reaching out to the employees as well as for behavior informatics.

Before we discuss the recent framework of social media analytics for behavior informatics, HR and business process, the need is felt to throw ample light on related key concepts, which include: social media, social media analytics and behavior informatics.

1.1. Social Media

Social Media contains Internet-based operations that are based on Web 2.0 technology, enabling users to interact and exchange the content or information (Kaplan et al, 2010). In other words, social media is any online media platform that provides content for users and also allows users to participate in the creation or development of the content in some way. In the social media arena, people are encouraged to participate with the content by sharing and commenting on the media. Social Media is now becoming an incredibly popular and rapid channel of communication. This emerging form of media makes the exchange of information, sharing of pictures, audio, videos and messages among internet users. Now the need and relevance of Social Media has not been only felt for general internet users, but for business as well in the majority. Blogs and platforms like Facebook, Twitter, Myspace and LinkedIn, are some of the popular social networking channels allow users to put enormous amount of information that can be easily shared, explored, endorsed, augmented etc. Social media is preeminently understood as a group of evolving online media channels, which have the following features (Mayfield, 2008):

- **Participation:** Social networking sites promote participation among internet users and other counterparts.
- **Openness:** Social media provides user the platforms for freedom of expression over various issues in the society. It happens through voting, comments and the sharing of information or views.
- **Conversation:** Social networking sites are the excellent media for fast communication and two way open conversation.
- **Community:** Social media allows creating various communities to communicate effectively.
- **Connectedness:** Mostly media flourish on their connectivity, making use of links to other sites, resources and people.

Kietzmann et al. (2011) also described the seven functional building blocks of social media: identity, conversations, sharing, presence, relationships, reputation, and groups. As per the Kietzmann et al. (2011) each block allows us to unpack and examine (1) a specific facet of social media user experience, and (2) its implications for organizations.

1.2. Social Media Analytics

Online social media symbolizes an elemental move of how information is being created, shared and used. User-created information or content in the form of blog posts, comments, and tweets establishes a connection between the creators and the patrons of information. The significance of data created by social media for contemporary organizations is enormous. Behavioral assessment based on Social Media Analytics can also enable organizations to get predictive intelligence that can improve the quality of the hires. Organizations adopt Social Media Analytics to engage employees by fostering collaboration resulting in productivity enhancements. It can also facilitate knowledge creating and sharing.

Social Media analytics generate user-related data that comes in various forms: blogs (Blogger, LiveJournal), micro-blogs (Twitter, FMyLife), social networking (Facebook, LinkedIn), wikis (Wikipedia, Wetpaint), social bookmarking (Delicious, CiteULike), social news (Digg, Mixx), reviews (ePinions, Yelp), and multimedia sharing (Flickr, Youtube). Social media analytics are then used in analyzing such data and extracting actionable analytics. Social Media Analytics are vital instrument for any social media promotion or social media users. The Social Media analytic tools can be used to measure behavior, conversation, engagement, sentiment, influence, customer

needs and other Social Media particular elements. Social Media Analytics tools are used to monitor exchange of information on social networking sites.

From the HR perspective, organizations are now using social media analytics by capitalizing on the Web 2.0 technologies. According to IBM (2012), social media analytics enables organizations to gain deeper insights not only into customers but also into employees' sentiments.

1.3. Web 2.0 technologies

With the foundation of Web 2.0 technology, a new approach to social networking, i.e. online social networking or social media has emerged and has become quite popular. Web 2.0 is "*commonly associated with web applications that facilitate interactive information sharing, interoperability, user-centered design, and collaboration on the World Wide Web,*" allowing users to interact, edit or add to website content ("Web 2.0," 2010).

Web 2.0 concept was first used in 2004 to describe a as a platform whereby content and applications are not only created and published by users, but instead are always modified by all users in a reciprocally and joint manner. Although Web 2.0 does not signify to any particular technical update of the World Wide Web, there is a group of fundamental operations that are essential for its functioning (Kaplan et al, 2010).

1.4. Behavior Informatics

Being so distinct and multidimensional in nature, behavior is an important element in the organization needed to understand employees and other stakeholders' work-related behavioral patterns. Behavior Informatics is a strong tool that provides significant behavioral information. Behavior Informatics consists of behavioral data construction, behavior modeling and representation, behavior impact modeling, behavior pattern analysis, behavior network analysis, behavior simulation, measurement and evaluation, behavior presentation and behavior use and most importantly it reflects user's personality.

With the incumbent of social media and its growing significance in work and personal life, there have been many researches in the last few years into linking the pattern of use of social media to cognitive behavior. Numerous studies have shown the relationship of the use of SNS and user's personality and inter-relationship between the use of social media in terms of the choice of

media, intensity of use, perceived richness, pattern of interaction (like blogging, chatting, messaging, videoconferencing, uploading photographs) with personality, motivation, communication, leadership and quality of life, through the perspective of HR professionals.

There is a vast amount of unstructured data available at SNS. Skill is needed to extract desired data for behavior informatics from the organizational or HR perspective. Deriving behavior informatics through social media data is now being considered as an emerging phenomenon for the organizations to use such informatics for their HR process and behavior-related issues at the workplace.

1.5. Personal and Professional implications of Social Media

Broadly, the uses of Social media sites can be categorized into two categories as personal and professional or business uses (Warnakula et al, 2010). Using social media sites for flirting, entertainment and other personal life related activities are the personal uses of social media sites.

The professional use of social networking occurs when an individual or an organization uses such media for activities like creating community for client or customer relationships, creating support community, researching job applicants, researching job openings, as a sales channel, for content distribution, developing an internal or external professional network, and any other professional work-related uses.

The **key objectives** of this paper are:

- To present a contemporary framework or model on employability of social media analytics for behavioral, HR and business processes.
- To highlight the emerging and innovative trend through reviewing the available literature on how organizations are accessing real-time data from social media to understand work-related behavioral aspects of the employees, using it in hiring and selection as well as in maintaining customer relations.
- To recommend the road map on how organizations can foster the practice of using social media and applying social media analytics for organizational purposes.
- To propose plausible research questions on the basis of the proposed model for empirical researches to be carried out.

2. SOCIAL MEDIA TOOL FOR BEHAVIOR INFORMATICS AND HR ANALYTICS AND BUSINESS PROCESS - A CONTEMPORARY FRAMEWORK

2.1. An Overview of Current Social Media Tool Practices

No doubt that Social media is fast-eclipsing other forms of communication for current and upcoming generations and for workforce in the organizations as well.

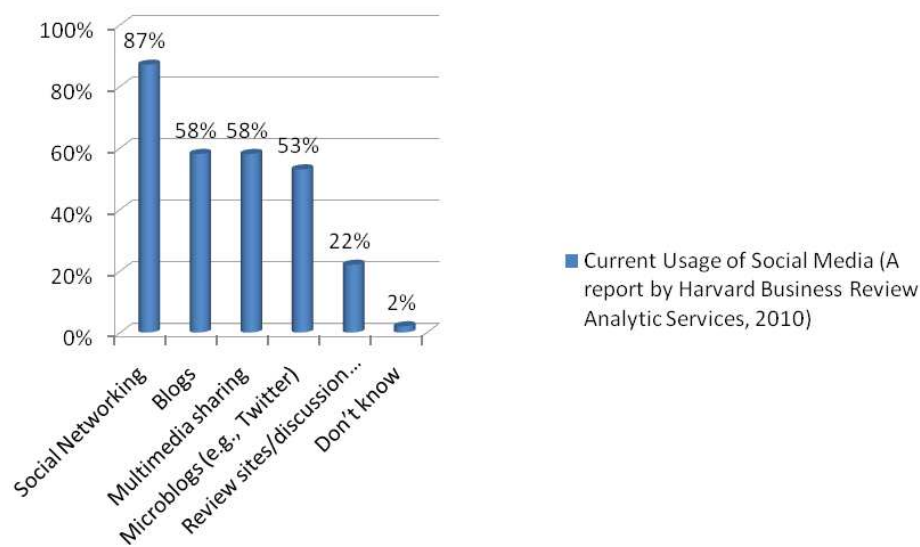


Figure 1. Data on the usage of social media in organizations

Source: A Report of HBR Analytics Services
(http://www.sas.com/resources/whitepaper/wp_23348.pdf)

Recent articles on social media have also revealed that rigorously tracking and measuring performance has become intrinsic to the organizations. Much discussion centers on what constitutes meaningful or credible measures of social media use for recruiting, employee training, internal communication or employee engagement. A survey in the U.S. revealed how employees perceive the usage of social media in the organization (see Table 1).

In Collaboration and Communication, Technical Discussions and Employee Recognition were considered fit for use of social media, while Organizational or Policy Communication and Virtual Meetings did not find

favor. Talent Management as a whole was not favored for use of social media, while Internal Branding was considered fit for such use. Thought Leadership and Employer Branding were here deemed suitable for social media (Wipro Consulting, 2012). Social Media platforms are currently being used in four major HR areas: Hiring, Collaboration and Communication, Talent Management, and Internal Branding. A very recent survey has shown that within Hiring, works such as Sourcing, Pre-joining Engagement are preferred for use of these platforms.

Table 1. Human resource practices and social media

58%	of employees would rather work at a company that utilizes social media tools
60%	of employees say use of internal social media demonstrates innovation
61%	of employees say their company's social media tools make it easier to collaborate
86%	of employees of companies effectively employing internal social media say they would encourage others to work there

Source: APCO Worldwide and Gagen MacDonald, Survey on the State of the U.S. Workplace as Viewed by America's Workforce (2011)

A recent KPMG report (Zielinski, 2011) underscores that “*emerging markets like China, India and Brazil are 20 - 30% more likely to adopt and use social media than their counterparts in the UK, Australia, Germany or Canada.*” This is not surprising as business competitive advantage in these countries is increasingly driven by speed, agility and innovation, which are well-augmented by social media tools and applications. However, it is important to note that social media is just a tool. To be effective, it needs to be customized to the overall people strategy and culture of the organization. Hence, the key lies in the appropriate selection of social media platforms and tools from a plethora of options available to an HR practitioner, as per the unique needs of the organization (SHRM).

2.2. Social Media Analytics in a Contemporary Framework

Furthermore, many HR professionals still do not possess the software or know-how to handle the vast amounts of unstructured, difficult-to-analyze data generated by the popular social media sites. Social media data is flooding the modern enterprise, so there is a huge need for social media integration tools that can effectively capture and blend this data. While monitoring social media has become commonplace, employers struggle mightily with how to create

actionable reports from HR's social media data (Zielinski, 2012). In the course of exploring the current practices of social media analytics in various domains of the organizations, employees as well as reviewing the existing papers on this issue, it has been felt that the applications or employability of social media now needs to be seen from a novel and diverse perspective. The compass of this emerging phenomenon needs to be practiced in a wide manner by the organizations as well as to be stepped further by future researchers. Therefore, we attempted here to present the employability of social media analytics in a new framework, which is presented by Figure 2.

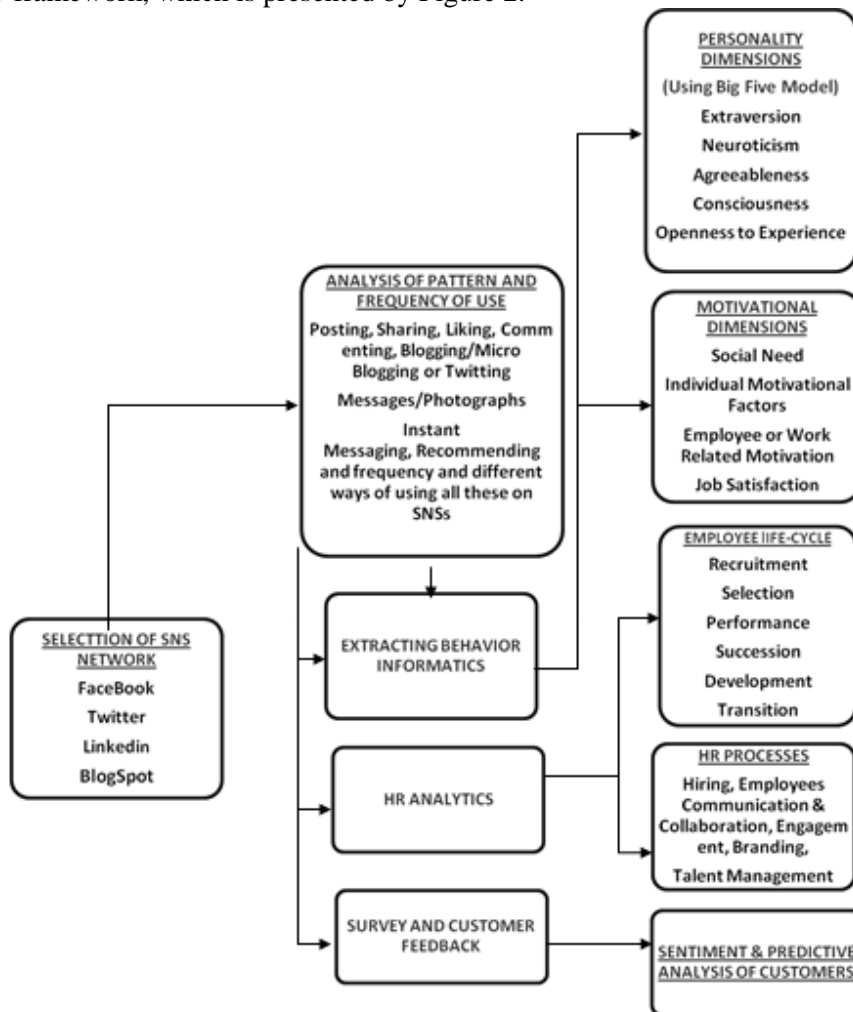


Figure 2. A contemporary model of social media analytics for behavior informatics, HR and customers

The above model can be further described by Table 2.

Table 2. Detailed framework on using social media analytics

Social Networking Sites (SNS)	Analyzing the Usage Pattern and Frequency	For Behavior Informatics	For HR Analytics	For Sentiments and Predictive Analysis
<p>Research has shown that <i>Facebook, Twitter, Blogs and LinkedIn</i> are the Popularly used, and most Informative Social Networking Sites for social media Analytics.</p>	<p>The SNSs have various features of using it like-posts, Likes, sharing, commenting micro-blogging, re-tweets, recommendations etc. Applying suitable Analytical tools significant informatics related to behavior, HR and Customers can be extracted, analyzed, understood and predicted.</p>	<p>Informatics related to personality and behavioral pattern can be analyzed on SNSs using big five model. Each trait of Big five model can be categorized & described through various features used on SNSs and reflect personality. The SNS data and its usage also serves as a medium to understand Work-related Motivation, social needs etc.</p>	<p>Social Media platforms can be used in some major HR areas: like Hiring, Collaboration & Communication, Talent Management, and Employee/Employer Branding. Social media data can also be used to study the employee life cycle from recruitment till the transition.</p>	<p>Blogging sites like Twitter, blogs that enable customers to present their thoughts, feedback to a wider audience. A well-designed survey of customer data on SNSs is required and that data can be used for sentiment and predictive analysis of the customers.</p>

3. REVIEW OF RELATED LITERATURE

3.1. Role Social Media in Selection and Hiring

Social networking sites, such as Facebook and Twitter, allow individuals to post and share personal information, which has led many US employers to use social networking sites to screen job applicants (Shea and Wesley, 2006; Withiam, 2011). A reason for using social networking sites to screen employees

is that employers might want to verify information provided by applicants. For example, ADP Screening and Selection Services found that applicants falsify their information on applications, such as their employment record, education, and credentials or licenses (Levashina, 2009).

3.2. The Practice of Sourcing Talent on Social Media

Other reasons for using social networking sites for selection purposes is that social networking sites have some advantages over traditional human resource tools, such as being accessible without costs (Jacobs, 2009) and are perceived to be reliable sources by users (Kluemper and Rosen, 2009). Thus, social networks provide employers with additional information they can use to screen applicants (see Table 3).

Table 3. A vision on sourcing talent on social media

Attracting aspirants and polishing an employer product	Conveying an Employer Value Proposition on a global scale	Faster, better focused recruiting
<p>As social media suplicate to large numbers of users, social networking sites are appropriate place for a company to build up a capacity hub. Further, publishing an employer's products online will be a best strategy for web communities whose members are most likely to match the sought-after profiles. The company's representatives, if there on these channels and discussion forums, can server as ambassadors for their employer.</p>	<p>For several years, ADP Employer Services has been working on establishing the talent acquisition on social networks in the US.</p>	<p>Recruiting through social media channel is still an upcoming phenomenon to have been "benchmarked" on a large scale. However, many studies are already proving that these media are fruitful source for bringing out talents. According to Peter Gold (UK) Founder of Hire Strategies Limited, online recruitment "<i>Having present on social networking sites is not sufficient. It is important to think in terms of employer branding.</i>" According to Jacques Froissant (France) Founder of Altaïde, innovative HR services "<i>The agenda is not to publicize job openings. It is mostly for engaging potential candidates</i>".</p>

Source: ADP Employer Services International
<http://www.es-international.adp.com/tools-and-publications/publications/sourcing-talent-on-social-media>)

In addition to the above findings, a fresh study also addressed an important issue while using social media as a hiring tool that the reliability and validity of using social networking sites to screen and select applicants is unknown. Until the reliability and validity of the information from social networking sites is examined, hiring organizations should be cautious when relying on social networking sites to make selection decisions (Madera, 2012).

3.3. Role of Social Media and Personality

The relationship between personality and social networking was earlier established in a study of nostalgic websites conducted by Amichai-Hamburger, Kaplan, and Dorpatcheon (2008). Hamburger and Ben-Artzi (2000) suggested that Internet use is related to user's personality. According to Amichai-Hamburger (2002), personality is a primary factor in understanding why people behave in a particular manner on the Internet. The association between personality and Internet or social media use has been shown using a number of various personality theories, among them those of big-five theory (Hamburger & Ben-Artzi, 2000); need for cognition (Amichai-Hamburger, Kinar, & Fine, 2007; Kinar & Amichai-Hamburger, 2008); need for closure (Amichai-Hamburger, Fine, & Goldstein, 2004) and sensation seeking (Lin & Tsai, 2002).

Ross et al. (2009) studied the association between the personality of the individual users and their behavior pattern on social networking sites. They did their study on the self-reports inventories of users of Facebook, one of the most widespread social networking site, and measured five personality factors using the NEO-PI-R (Costa & McCrae, 1992) questionnaire. They came up with the results that while there was a link between the personalities of users and their behavioral pattern on Facebook, it was not burly. That study was based on that of Ross et al. (2009).

A study by Hughes et al. (2012) attempted to explore and to analyze the interplay of individual differences in the use of Social Networking Sites. They studied how the personality traits of the Big-Five Factor- Neuroticism, Extraversion, Openness-to-Experience, Agreeableness and Conscientiousness, Sociability and Need-for-Cognition relate to the social and informational use of the two prevalent Social Networking Sites- Facebook and Twitter.

Some of the Big Five personality for example, extraversion is positively correlated with both the size of social networks, and the amount of social interaction that an individual engages (in Aspendorpf and Wilpers, 1998). The Big Five factors have recently been applied to study the use of definite forms of

online social media due to its relevance to social behavior. (Amichai-Hamburger & Vinitzky, 2010; Correa, Hinsley, & de Zúñiga, 2010; Ross et al., 2009) and blogs (Guadagno, Okdie, & Eno, 2008).

Ryan (2011) highlighted that the extraordinary reputation of Facebook raises a many issues regarding the impact it has on sociality. However, this study has emerged, because Facebook is a very recent social trend, and the link between its use and personality needed to be established. The study aimed to investigate how personality impacts pattern of using Facebook. The sample consisted of 1324 self-selected Australian Internet users (category-1158 Facebook users and 166 Facebook non-users, Age-Group-between 18 and 44). Participants were asked to fill online questionnaires comprising the Big Five Inventory (BFI), the Narcissistic Personality Inventory – 29-item version (NPI-29), the Revised Cheek and Buss Shyness Scale (RCBS), and the Social and Emotional Loneliness Scale for Adults – Short version (SELSA-S). Facebook users were also administered a Facebook application questionnaire. The results revealed that Facebook users likely to be more extraverted and narcissistic, but less conscientious and socially lonely, than non-users. Furthermore, frequency of Facebook use and preferences for specific features were also shown to vary as a result of certain characteristics, such as neuroticism, loneliness, shyness and narcissism.

The results of a research by Moore et al (2012) showed personality to put forth considerable gender difference Facebook practice in terms of authentic number of Facebook friends, the manner and amount of their wall postings or reacting towards the specific Facebook content.

Donald et al (2012) investigated the psychometric properties of the Big Five personality traits measured through social networking profiles in two different studies consisting of 274 and 244 social networking website (SNW) users. Firstly, Social networking websites ratings resulted substantial inter-rater reliability and internal consistency. Secondly, ratings via Social Networking Sites reflected convergent validity with self-ratings of the Big Five personality traits. Thirdly, Social Networking Websites ratings found correlated with job performance, recruitment, and academic performance standard; and the degree of these correlations was usually bigger than for self-ratings. Finally, Social Networking Sites ratings reported for considerable variation in the criterion measures further than self-ratings of personality and cognitive ability.

According to Ross et al (2009), Facebook is rapidly becoming one of the most popular channels for social communication, although it is comparatively

diverse from other social media sites. It presents an offline-to-online movements; which means the majority of Facebook Friends are met offline and then added afterward. Moore et al (2012) also showed in their study that personality has been considered over other individual differences such as cognitive style (e.g., Meyers-Briggs Type Indicator) due to recent studies suggesting the Big Five personality factors envisage Internet use much better than cognitive style (Davis, Bagozzi, & Warshaw, 1989; Devaraj et al., 2008; McElroy, Hendrickson, Townsend, & DeMarie, 2007). It is important to further our understanding of the impact of personality on the use of social networks in order to enhance the psychological well-being.

3.4. Role of Social Media in Improving Customer Relations

It has become crucial for organization to listen to what its stakeholders are saying about it within the social space before planning any marketing strategy. In a recent global CMO survey, over 90% of companies confirm that they allocate over 25% of their marketing mix budgets to social media and digital marketing initiatives. They understand this critical need to participate in continuous consumer interactions that engages users with opportunities to share their opinions. Organizations need a variety of online supporters. They need customers who buy their products, evangelists who promote their brand, mavens who add intellectual value, their own employees who speak out and increase the goodwill towards the brand. The findings of related studies confirm this as well.

A study suggested that consumers felt more engaged with products and organizations when they were able to submit feedback. For example, Toyota enables its customers to provide feedback on a broad range of issues via its "*Open Road Blog*" (Toyota, 2008b).

The results of a study by Hamburger (2010) elucidated the connection between personality and consumer behavior that may have implications for marketing practitioners. Recent studies in marketing suggested the effectiveness of utilizing social networking for marketing purposes (Goldenberg, Han, Lehmann, & Hong, 2009; Kratzer & Lettl, 2009).

A study by Nov and Ye (2008) provided an instrument for achieving marketers' aims. They suggested that innovators were more open to experience than other customers. Thus, by analyzing the profile of potential customers on Facebook, marketers can classify which customers are higher in openness and concentrate their efforts on that segment. Moreover, by using a Facebook

environment, marketers can estimate the activity of each customer in the network (i.e. number of friends, general activity) and so manage their own efforts more efficiently. This study showed that personality is very much related to social network use. This finding raised new questions that center on the interaction between personality and additional variables that affect users' behavior on social networks.

3.5. Role of Social Media for Business and Organizations

A recent survey, conducted by Wipro Consulting (2012), found that out of the 150 respondents, 63 percent agreed that social media was used in business processes in their industry. A Society for Human Resource Management survey found that 55 percent of responding employers planned to increase the use of social media in the next 12 months. But only 21 percent indicated that they use analytics or reporting tools to measure ROI (Return On Investment). Judgment makers, practice consultants, attempt to figure out the ways in which company can make fruitful outcome of applications such as Wikipedia, YouTube, Facebook, Second Life, and Twitter (Kaplan, 2010). As BBC Business Editor Tim Weber (2010) explains in his words: *"These days, one witty Tweet, one clever blog post, one devastating video – forwarded to hundreds of friends at the click of a mouse can snowball and kill a product or damage a company's share price"*. The business trends are shifting today like they conduct their marketing activities through the use of Facebook as an advertising automobile, distribution channel, and to encourage word-of-mouth referral (Moore, 2012). This suggests that the new organizational trend of conducting business and dealing with employees and customers that many organizations are effectively following is using social media to enhance employee productivity and organizational growth through different means.

4. RECOMMENDATIONS

Literature on how to foster the practice of social media analytics in the modern corporate culture is being amplified, which presents further evidence, supporting claims that some Social Networking Sites can be a powerful tool. They represent an opportunity for businesses, organizations and employees to enhance their global approachability and adopt innovative business trends.

The following suggestions show how organizations can cultivate this and adopt social media practices as a part of their organizational culture and social media analytics:

- **Identify employees who are active on the social media and train them for social media applications.** Many companies strive in inculcating the fruitful orientation among their social media users. To overcome this, users can be trained, their social media skills enhanced and the applicability and significance of social media at workplace acquired.
- **Prioritize business objectives and choose the right tools.** To make sure that social media tools are determined by business objectives, organizations need to identify and prioritize objectives and then identify the most effective tools for their needs.
- **Introduce social media policy to avoid risk of information sharing.** Social media policies should be carefully created aligning them with the organization's social media strategy. Awareness of and education about the policy, what it covers, its injunctions with other policies like information use, harassment etc. is very important.
- **Lead to follow.** Leaders can use social media to share information about strategies, expansion, culture change and also request inputs from the employees.
- **Strategic focus on social media monitoring.** It is necessary not only to cultivate the significant uses of social media but also to develop strategies for continuous social media monitoring . A 24x7 monitoring & reporting support system needs to be introduced
- **Reward the active and constructive users.** Reward, being a vital motivator and reinforcement, acknowledging the important contributions of active employees also adds to the employees' performance.

5. RESEARCH QUESTIONS FOR EMPIRICAL STUDIES

On the basis of the above proposed model (see Figure 2), the following research problems may be scientifically tested and studied in future empirical studies:

- Can social media behavior informatics serve as an assessment tool for personality, motivation and other Behavioral Patterns?
- Can Social Media data be fairly used in diverse decisions throughout the various stages of employee life-cycle like recruitment, selection, performance, development and transition?
- Can the employability of social media HR analytics in HR Processes specifically in hiring, selection, communication & collaboration, employee engagement, internal branding and talent management be seen?

- Establishing suitable data mining and analytical tool for behavior informatics and HR Analytics on Social Networking Sites for organizational perspective.
- Sentiment & predictive analysis of the customer data through survey and customer feedback from social networking sites.

6. CONCLUSION

Following the above discussion, we can conclude that there is no doubt that social media data is flooding the modern organization. Therefore, there is a huge need to develop social media integration and analytical tools as they are needed to effectively capture and blend this data with operational systems, business intelligence, etc. The paper began to address the key concepts related to social media by bringing readers up-to-date on this emerging issue. This paper had five major objectives. The first objective was to present a new framework for organizations and future researchers on applicability of social media analytics for understanding personality, motivation & behavioral pattern, employee life cycle, HR Analytics, sentiment and predictive analysis of the customers. The second objective was to highlight the current practice as well as the emerging trend of this new phenomenon in modern industries through systematic review of recent available literature. The third objective was to suggest an effective roadmap to foster the use of social media analytics in the innovative corporate environment. Last but not least, an attempt was made to address plausible research questions in this area that need to be further validated in future empirical researches to as was proposed in this paper.

REFERENCES

1. Amichai-Hamburger, Y. (2002). Internet and personality. *Computers in Human Behavior*, 18, pp. 1–10.
2. Amichai-Hamburger, Y. (2005). Personality and the Internet. In Y. Amichai-Hamburger (Ed.), *The social net: Human behavior in cyberspace*, pp. 27–55. Oxford: Oxford University Press.
3. Amichai-Hamburger, Y.; Fine, A.; Goldstein, A. (2004). The impact of Internet interactivity and need for closure on consumer preference. *Computers in Human Behavior*, 20, pp. 103–117.
4. Amichai-Hamburger, Y.; Kaplan, H.; Dorpatcheon, N. (2008). Click to the past: The impact of extroversion by users of nostalgic website on the use of Internet social services. *Computers in Human Behavior*, 24, pp. 1907–1912.

5. Amichai-Hamburger, Y.; Kinar, O.; Fine, A. (2007). The effects of need for cognition on Internet use. *Computers in Human Behavior*, 23, pp. 880–891.
6. Amichai-Hamburger, Y.; Vinitzky, G. (2010). Social network use and personality. *Computers in Human Behavior*, 26, pp. 1289–1295.
7. APCO Worldwide; MacDonald G. (2011): *Survey on the State of the U.S. Workplace as Viewed by America's Workforce* (Published online) http://www.gagenmacdonald.com/downloads/GagenAPCO_Sell-Sheet-Slick_inreview.pdf
8. Aspendorpf, J. B.; Wilpers, S. (1998). Personality effects on social relationships. *Journal of Personality and Social Psychology*, 74, pp. 1531–1544.
9. Correa, T.; Hinsley, A. W.; de Zúñiga, H. G. (2010). Who interacts on the Web? The intersection of users' personality and social media use. *Computers in Human Behavior*, 26, pp. 247–253.
10. Costa, P. T.; McCrae, R. R. (1992a). *Revised NEO personality inventory (NEO-PI-R) and the NEO Five-Factor inventory (NEO-FFI): Professional manual*. Odessa, FL: Psychological Assessment Resources Inc.
11. Davis, F.; Bagozzi, R.; Warshaw, P. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), pp. 982–1003.
12. Devaraj, S.; Easley, R. F.; Crant, J. M. (2008). Research note – How does personality matter? Relating the five-factor model to technology acceptance and use. *Information Systems Research*, 19(1), p. 93.
13. Donald H. K.; Pater A. R.; Kevin W. M. (2012). Social Networking Websites, Personality Ratings, and the Organizational Context: More Than Meets the Eye? *Journal of Applied Social Psychology*. 42 (5), pp. 1143–1172.
14. Gilfoil, M. D.; Jobs, G. C. (2011). Mind the Gap: A Global Analysis of the Number of Buyers to Sellers Using Blogging, Social Networking Online Video and Microblogging platforms. *International Journal of Business Research*. 11 (5), pp. 86-98.
15. Guadagno, R. E.; Okdie, B. M.; Eno, C. A. (2008). Who blogs? Personality predictors of blogging. *Computers in Human Behavior*, 24, pp. 1993–2004.
16. Hamburger, A. Y.; Vinitzky, B. G. (2012). Social network use and personality. *Computers in Human Behavior*, 26, pp. 1289–1295.
17. Hamburger, Y. A.; Ben-Artzi, E. (2000). The relationship between extraversion and neuroticism and the different uses of the Internet. *Computers in Human Behavior*, 16, pp. 441–449.

18. HBR Analytics Services (2012). The New Conversation: Taking Social Media from Talk to Action Sponsored. (Published online) http://www.sas.com/resources/whitepaper/wp_23348.pdf
19. Hughes, J. D.; Rowe, M.; Batey, M.; Lee, A. (2012). A tale of two sites: Twitter vs. Facebook and the personality predictors of social media usage. *Computers in Human Behavior* 28, pp. 561–569.
20. IBM Software Group White paper, (2010). *Business intelligence for business users: Insight when and where you need it*, YTW03093-CAEN-00, pp. 1-10.
21. IBM delivers social media analytics, (2012). (Published online), <http://www.computerweekly.com/news/2240113965/IBM-delivers-social-media-analytics>
22. Jacobs, D. (2009). Surviving the social explosion. *Landscape Management*, 48, pp. 10–13.
23. Jan, H. K.; Kristopher, H.; McCarthy, I. P.; Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media, *Business Horizons*, 54, pp. 241-251.
24. Kaplan A. M.; Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53, pp. 59-68.
25. Kinar, O.; Amichai-Hamburger, Y. (2008). The effects of need for cognition on Internet use revisited. *Computers in Human Behavior*, 24, pp. 361–371.
26. Klumper, D. H.; Rosen, P. A. (2009). Future employment selection methods: evaluating social networking web sites. *Journal of Managerial Psychology*, 246, pp. 567–580.
27. Levashina, J. (2009). Expected practices in background checking: review of the human resource management literature. *Employee Responsibilities and Rights Journal*, 21, pp. 231–241.
28. Lin, S. S. J.; Tsai, C. C. (2002). Sensation seeking and Internet dependence of Taiwanese high school adolescents. *Computers in Human Behavior*, 18, pp. 411–426.
29. Madera, M. J. (2012). Using social networking websites as a selection tool: The role of selection process fairness and job pursuit intentions. *International Journal of Hospitality Management*, 31, pp. 1276– 1282.
30. Mayfield, A. (2008). *What is Social Media?*, iCrossing.
31. McElroy, J.; Hendrickson, A.; Townsend, A.; DeMarie, S. (2007). Dispositional factors in Internet use: *Personality versus cognitive style*. *MIS Quarterly*, 31(4), pp. 809–820.

32. Moore, K.; McElroy, C. J. (2012). The influence of personality on Facebook usage, wall postings, and regret. *Computers in Human Behavior*, 28, pp. 267–274.
33. Nov, O.; Ye, C. (2008). Personality and technology acceptance: The case for personal innovativeness in IT, openness and resistance to change. In *Proceedings of the 41st Hawaii International Conference on System Sciences (HICSS 41)*. Hawaii, USA: IEEE Press.
34. Pareek, A.; Jindal, P.; Nair, S. (2012). *A Survey Report on Social Media and Human Resources by Wipro Consulting*, pp. 1-40.
35. Paul Gillin Communications. Social Marketing Goes Multiplatform, Preliminary Report of Ongoing Research (Published online) <http://www.slideshare.net/pgillin/social-media-goes-multiplatform>
36. Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior*, 25, pp. 578–586.
37. Ryan, T.; Xenos, S (2011). Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. *Computers in Human Behavior*, 27, pp. 1658–1664.
38. Shea, K., Wesley, J., (2006). How social networking sites affect students, career services and employers. *National Association of Colleges and Employers Journal*, 66, pp. 26–32.
39. Toyota. (2008b). Open road blog. Retrieved July 7, 2008, <http://blog.toyota.com/rules-of-the-road.html>
40. Warnakula, W & Manickam, B. (2010). Employees' Behaviour in Online Social Networking Websites (SNSs). *Tropical Agricultural Research*, 22 (1), pp. 94 – 106
41. Web 2.0. (2010). *Wikipedia*, http://en.wikipedia.org/wiki/Web_2.0
42. Weber, T. (2010). Why companies watch your every Facebook, YouTube, Twitter move. (Published online). <http://www.bbc.co.uk/news/business-1145092>
43. Withiam, G., (2011). Social networking websites and the hospitality industry: holding the tiger by the tail. *Cornell Hospitality Research Summit Proceedings* 3, pp. 6–15.
44. Zielinski, D. (2012). Find Social Media's Value, The platform's return on investment often eludes measurement. A recent KPMG Report of 2011, *HR Magazine*, 53.

**SUVREMENI TEORIJSKI OKVIR ANALIZE DRUŠTVENIH MEDIJA
KAO NOVOG ALATA ZA INFORMATIČKI PRISTUP PONAŠANJU,
ANALIZU LJUDSKIH POTENCIJALA I POSLOVNIH PROCESA**

Sažetak

Organizacije mogu koristiti analizu društvenih medija kao učinkoviti alat za procjenu zaposlenika s ponašajnog aspekta, ali i kao alate upravljanja ljudskim potencijalima i u poslovnim procesima, kako bi se kolaborativno gradio kompetencijski okvir. Ova je studija pokušaj kreiranja suvremenog teorijskog modela društvenih medija u svjetlu kojeg daje postojeća literatura. Osim pregleda literature, u radu se također izdvaja suvremena praksa analize društvenih medija, pri čemu organizacije pristupaju golemim količinama „živih“ podataka iz društvenih medija, kako bi razumjele aspekte radnog ponašanja svojih zaposlenika i njihovu zapošljivost. Analiziraju se i u obzir uzimaju i podaci o kupcima, kako bi se utvrdili uzorci i utvrdili osjećaji kupaca, relevantni za marketinške napore poduzeća. Nadalje, na temelju iznesene diskusije, u radu se predlaže razvojni put za unapređenje prakse korištenja društvenih medija u organizacijama. Na kraju, u radu se postavljaju neka značajna istraživačka pitanja, koja bi trebalo dodatno istražiti, kako bi se metodički potvrdio (ili odbacio) predloženi teorijski okvir.