A Conceptual Framework for Social Media Adoption in Business

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Abstract

This research is aiming to improve performance indicators in business units through the development of a social media framework that helps businesses to systematically adopt social media.

The researcher examined literature in addition to surveying personnel of 7 businesses Khartoum, in order to reveal how they perceive use of organizational use of social media from different axis: experience with social media business profiles (SMBPs), extent of knowledge about performance metrics of their business units and most likely affected units with use of social media, expectations from exploitation of social media, and others; by using paper-based survey. Variables extracted from analyzing survey and investigating literature has been used as a base of the solution framework. Stakeholders and factors that affect social media adoption were analyzed and embedded in the solution framework. Moreover, content analysis of user-generated content (UGC) on Facebook for two businesses running in Sudan has been performed in order to validate the framework against tow common performance indicators.

Keywords– adoption framework, user-generated content, Facebook, Sudan, social media in business, social media performance, business performance indicators, social media business profile.

Paper type– Research paper

1.Introduction

The objective of this research is to positively affect some performance indicators of business by developing a framework for the adoption of social media in business. Businesses around the world including Sudan have been realized the role of social media and value that could be returned from using these technologies in a wide spectrum of functions [1]. Undirected use of social media in the business context is the common theme of use in businesses although a lot of them are embedding links to their social media business profiles (SMBPs). Social media adoption is advantageous and dangerous at the same time, in terms of providing additional communication channel for business [2], [3], [4], [5] from one side and possibility of negatively affecting reputation of the business by hands of customers or even furious employees [6], [7] from another side, unless business has a clear envisage for controlling reputation risks originating from social media.

Businesses perceived value gained from use of social media platforms [8] and exploiting user-generated content (UGC) in such platforms [9]; this lead to a noticeable growth in social media expenditure among organizations [10] [11], most of the organizations are not having a systematic plan for social media adoption [2]. Social media radically affects today's businesses and organizations since its content is exploited in reputation management [12] [13] [14], brand awareness [4] [15] [16] and employees engagement [17] to name a few examples. Among all business processes, social media is more fitting with business processes related to customer relationship management (CRM) [18]. It is noticeable that social media is not an efficient channel for direct revenue; instead, it is used as a channel for leads generation and conversions [18]. [4] in their study of impact of customer interaction with both brand awareness and purchase decision proved that brand awareness and word of mouth (WoM) positively affects purchase decision, also, [19] found that user-generated content, as well as firm, generated content are impacting brand equity and brand attitude which in turn affects purchase intention.

Social media strategy is defined by [20] as "a well-defined and tightly focused social media action plan, which has clear business objectives, specific policies, desired audience, desired resources and predefined metrics for measuring the social media impacts". This definition among others will be adopted among others and the ingredients of its plan will be adopted in this work. Organizational and environmental factors affecting the adoption of information and communication (ICT) systems in general and social media specifically should be considered for the successful adoption of social media by businesses in Sudan and will be discussed in the next subsections.

1.1.   Factors Affecting Social Media Adoption

Factors that affect the adoption of social media in local businesses will be examined; identifying such factors assist in tackling them and fairly judging the adoption process in business.

1.1.1. Management support

The most important factor for success or failure of using social media in an organizational context is management support. Management support mainly relies on results (social return of investment) demonstrability since it justifies investment on social media [21]; results demonstrability represents the extent to which results of adopting technology are visible within a firm, in addition to employees' ability in reporting the results to other stakeholders. [22] assumed that although a system is effective, it may not be adopted, if users found it difficult to link system adoption with job performance.

Management support will be discussed in the discussion section since it emerged as a result of primary data analysis.

1.1.2. Skills and capacity building
The success of IT projects including social media adoption affected by skills of participant employees, their ability to provide technical support [25] [26] and the existence of up-to-date capacity building programs conform business needs.
It was evident from the previous section that management willing to adopt social media is an important factor for resource allocation; including human resources and budgeting training programs. Massive outward immigration of Sudanese professionals had led to brain drain [26] and therefore a lack of qualified IT employees.

1.1.3. Policies
Most legal regulations set prior to the social media era; this led to a shortage of covering issues that are touching online activities. Issues like privacy, data protection and publishing accurate data in SMBPs should be considered [2]. In the case of Sudan; informatics crimes law had been approved in 2007 which make it obsolete and in need of updates to cope with advances in social media. This situation puts the whole effort of formulating social media policies upon businesses' shoulders.

1.1.4. Technology Infrastructure's diffusion
Social media is one of marketing channels, the role of this component is shrunken in Sudan since the percentage of Sudanese people, businesses and organizations using the internet are still small and concentrated in cities and some rural areas. Statistically, the internet penetration rate in Sudan is only 28.5% of the population, and 22% of them are subscribers to the most commonly used social media platform in Sudan; Facebook [27], which makes it a communication channel with a relatively limited audience.

1.2. Stakeholder's Analysis
Based on observing social media ecosystem within businesses and analyzing data, key stakeholders were identified to be: management which embraces unit directors in addition to top management, internal and external audience and social media specialists (team) or third party, social media team joins IT and social media specialists, in addition to representatives from related business units to convey messages that are intended for publishing and interact with customers in SMBPs. Once objectives identified it should be reflected social media team to publish relevant content, develop corresponding analytics algorithms generate and submit corresponding reports. Audience of SMBPs have to be considered in terms of identifying targeted audience group based on predefined business objective(s), preparing content fits

audience needs, analyzing user-generated content in a way gives useful insights to the business and formulating policies for social media use by internal audience; furthermore, audience in web, in general, has to be monitored since they may mention the business in a way harms its reputation. Social media specialists or third party is collaborating with units' directors to map business objectives into social media objectives, agree upon concept behind content of SMBPs, building a community around it [28], identifying human, hardware and software resources needed for social media adoption process with help of IT personnel, and collaborating with legislative authority in business to approve and embed media policy in employee's handbook.
This section covered the conceptual background of the research, factors affecting social media adoption and analysis of stakeholders. The next section will illuminate the methodology used in this work.

2. Methodology
This research used a literature review and surveyed businesses in Khartoum and reviewed related literature. The significance of the literature review comes from the fact that the problem deserves investigation although it had been studied before by other scholars [29] [30]. Therefore, the primary data source of this research was employees in Sudanese businesses who interrogated through a survey and secondary data source was journal articles as a seven businesses were selected purposefully so that they represented various industries, specifically, oil and energy, higher education, service ministry, non-governmental organization (NGO), telecommunication and banking and finance in addition to the stock market. Furthermore, different ownership types and sizes had been represented. 500 questionnaires focusing on perceptions from employees' experience in interacting with their SMBPs were handed to correspondents in management positions and executives in the period from 8th May 2018 till 5th July 2018. The correspondents selected from business units that have defined performance indicators and who have an adequate level of ICT literacy which ensures they are aware of social media concept. However, only 158 responded and 37 of them were incomplete, resulting in 121 valid questionnaires. Questions covered employee's level of interest regarding SMBPs, employee's awareness about the existence of SMBPs and its usefulness, SMBPs' fulfillment for business objectives and reporting performance metrics. The questionnaire's data was organized into a spreadsheet where rows representing correspondents and columns representing variables then descriptive statistical analysis have been performed on the cross-sectional data using the Statistical Package of Social Sciences (SPSS) v24. This section briefly discussed the milestones of this research. Findings of survey analysis will be presented in the next section in addition to ideas extracted from other scholars' works.

3. Results

Of 7 surveyed businesses only 5(71%) of them were having SMBP(s) and the majority of overall respondents (94.1%) were aware of the existence of these SMBPs. Based on this fact, analysis of variables related to extant SMBPs performed only on businesses that have SMBPs.

Table 1: Employees perceiving of SMBP

Issue	Variable	Frequency	Valid %
Not all employees know about the existence of SMBP	Awareness about the existence of SMBP	78	79.6
Value-added to business by social media is underestimated	Current SMBP adds value to the department	43	44.8
Unacceptable engagement level with SMBPs audience	SMBP is well engaged with customers	48	49.5
	Time frames (once ore more daily) of employees' interaction with SMBPs	15	15.3
Performance of SMBP is not announced to employees	Employees awareness regarding social media performance	32	32.7

Table 2: Employees knowledge about used platforms

Platform	Knowledge about the existence of SMBPs in various social media platforms	Percentage per business type			
		Telecomm	Banking & finance	Higher education	Government ministry
Facebook	Based on Correspondents	39.0	50.0	78.9	75.0
	Is there an SMBP on Facebook?	Yes	Yes	Yes	Yes
Twitter	Based on Correspondents	16.9	10.0	10.5	0.0
	Is there an SMBP on Twitter?	Yes	Yes	Yes	Yes
LinkedIn	Based on Correspondents	20.8	12.5	0.0	0.0
	Is there an SMBP at LinkedIn?	Yes	No	No	No
YouTube	Based on Correspondents	11.7	17.5	10.5	25.0
	Is there an SMBP on YouTube?	Yes	No	Yes	Yes
Instagram	Based on Correspondents	7.8	5.0	0.0	0.0
	Is there an SMBP on Instagram?	Yes	No	No	No
The internal social media		3.9	5.0	0.0	0.0

All responses had been analyzed when it comes to variables related to social media in general of following tables, table 1 shows evaluation of employees experience with SMBPs of their businesses, table 2 is extending "awareness about existence of SMBPs" aspect in table 1 so that it shows employee's knowledge about which social media platforms are used by their businesses, table 3 presents the extent of employees knowledge about performance metrics of the units they are working on, table 4 shows the most business units that have potential to gain value from social media, table 5 shows employees optimism regarding exploitation of social media, table 6 shows mostly used social media platforms among Sudanese population who are represented here by employees, and table 7 relates believe in added value from use of social media with receiving performance reports (a graphical representation is shown in figure 1). Statistics of the engineering firm were excluded because there was a lot of missing in responses to this question.

Table 3: Employees with no idea about the performance metrics of their departments

Business type	Frequency	Missing percent
Telecomm	10	29.4
Banking & Finance	7	28.0
Higher Education	6	66.7
Government Ministry	12	66.7
Engineering	5	41.7

Table 4: Areas that have the potential for improvement if social media properly adopted

Areas that have the potential for improvement with proper use of social media	Frequency	Valid percent
Customers' relationships such as keeping them satisfied, preserving them and expanding customers' base	65	25.6
The innovation which includes products/ services development and innovating new products/ services	50	19.7
Operational performance such as production rates and safety	28	11
Employee's relationships such as keeping them satisfied and attracting qualified employees	39	15.4
Product/ service quality such as error rates and incentives for quality	28	11
Alliancing with other organizations which includes co-production, products design or collaborated projects	25	9.8
Presenting and discussing short term financial results such as annual profits, returns from assets and decreasing cost.	19	7.5

Table 5: Optimism regarding value expected from the proper use of social media

Business type	Frequency	Missing percent
Telecomm	24	70.6
Banking & Finance	9	69.2
Higher Education	17	94.4
Government Ministry	12	66.7
Engineering	15	68.2
NGO	7	70.0

Table 6: Mostly used social media platforms among employees

Platform	Having a personal account	
	Frequency	Percent of cases
Facebook	105	96.3
Twitter	40	36.7
LinkedIn	49	45.0
Instagram	41	37.6

Table 7: Believing in value gain from the use of social media versus receiving performance reports

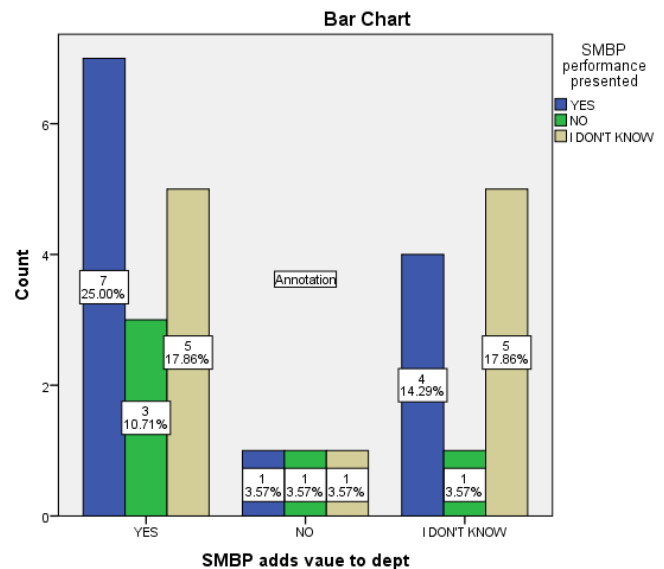| Managers believing that SMBP adds value to the department		VS	Managers receiving SMBP's performance reports	
Frequency	Valid percent		Frequency	Valid percent
15	53.6		12	41.4

Figure 1: Relating knowledge about SMBPs' performance with perceive of adding value

4.   Findings and Discussion

Analysis of survey variables related to employees perceiving to social media efforts in their businesses uncovered the following issues

4.1. A considerable portion of employees doesn't know that their business has SMBPs. "Not all employees know about the existence of SMBP", in best cases some employees don't know what are the social media platforms adopted by their business and in odd cases, they supposed that business is having SMBP is a platform where it was not already used (table 1, table 2).

4.2. Employees are not satisfied with SMBPs. Around half employees believing that "value-added, currently, to business by social media is underestimated" and employees in general and of the IT department have shown "unacceptable engagement level with SMBP". Also, it is apparent that a considerable portion of employees is not provided with information regarding the performance of SMBP and not aware of performance

metrics that evaluate the achievement of objectives (table 1).

4.3. Expectations from the systematic adoption of social media. Further analysis of survey reveals that employees convinced that social media has high potential of success if it was used systematically; in addition, they are believing that social media potential of success with some business functions such as CRM, innovation and enhancing employee's relationships is higher than its potential with others (table 5, table 4).

4.4. SMBPs should take into account the most used platforms in the country. Table 6 has shown that popular social media platforms among employees. It is apparent that Facebook followed by LinkedIn are dominant platforms in terms of having personal accounts among Sudanese which aligned with international statistics.

4.5. Perceiving value-added from the use of social media is related to reporting its performance. Only 58.6% of managers perceive that SMBPs are adding value to the department and 41.4% of them are receiving performance metrics of SMBP (table 7), to correlate perceiving of added value by SMBPs and reporting its performance the variables have been cross-tabulated. Figure 1 shows that majority of managers who are perceiving value of SMBP were receiving reports about its performance; moreover, a considerable portion of managers who was reported about SMBPs performance don't know whether it adds value to their units or not; this is not surprising result since it reflects failure in relating SMBPs performance with departmental performance.

Furthermore, related literature has been examined, this resulting in extant variables in addition to variables derived from analyzing primary data; next paragraphs are discussing the use of extant and derived variables in the development of solution framework. Analysis of survey variables related to employees' perceiving regarding social media efforts in their businesses revealed that some activities should be undertaken as shown in table 8.

Table 8: Variables derived from primary data

Variable\ idea\ construct	Description (activities should be undertaken)	Source(s)
Mostly used social media platforms among the business audience	•Launching SMBP(s) in platforms where the audience are active •Probing whether social media has the potential of	Table 6

	success regarding industry and\ or business unit. •Identifying and paying social media effort for business units that will be affected by and could be tracked from social media.	Table 4
Areas that have the potential for improvement if social media systematically used		
Awareness about the existence of SMBP (s)	•Using traditional and online media to introduce SMBP(s) to social media actors (internal\ external)	Table 1 %79.6
Employees knowledge about platforms hosting SMBPs	•Linking SMBP(s) with the business website	Table 2 range 7.8 – 60.73
SMBP(s) is not well engaged with customers	•Clearly define employees who will manage SMBP(s) and their responsibilities; in social media policy and assess social media performance continuously	Table 1 %49.5
Time frames\ (engagement with) of employees interaction with SMBPs.	•Accepted and non-accepted behavior in SMBPs should be stated in social media policy •Acquiring social media management software for scheduling content publishing	Table 1 %15.3
Performance metrics of business units not known by employees of these units	•Performance metrics should be derived from performance indicators of business units that may be affected and tracked through social media, then right web and social media metrics should be selected	Table 1 %32.7
Employees awareness regarding social media performance	•Requirements analysis should be considered when selecting social media analytics (SMA) software and analysis results should be reported.	Table 3 range (28.0 – 66.7)
Reporting performance of	To gain management support; the impact of social media on business	Figure 1

SMBP(s) is not always assuring perceiving value-added from their use	performance should be demonstrable, in other words, social media performance should be linked to business performance	

Businesses should make a presence in social media platforms where the audience is active; this could be achieved using online statistics about regional use of social media, analyzing business mentions in the web and volume of UGC in (pilot) SMBPs if they are already launched. Performing such activities leads business into one of three tracks: investigating in social media adoption if there was an adequate volume of related UGC, concluding that social media is not fitting with business type/ industry or unit due to rare interaction with SMBPs or taking corrective actions to adopt social media systematically.   Also, the business should raise awareness about the use of social media in the business context and advertise its SMBPs through introducing them in traditional and online media, this allows employees and customers to join and interact with these profiles.

Another issue arising was an unacceptable level of business engagement with SMBPs due to unclear specifications of who should be responsible for managing these SMBPs and what is the role of other employees in terms of interacting with business profiles in social media. To police use of business profiles in social media, avoiding risks of absence from social media, low-quality content and content that may harm business reputation; business should formulate and publish a clear social media policy identifies who are responsible for publishing content, their responsibilities and procedures should be undertaken to mitigate the effect of risky content. Furthermore and most importantly, businesses adopting social media should report the performance of SMBPs and the performance of business units that could be enhanced and tracked from social media. Identifying business units' performance metrics and aligning them with social media and web metrics in a way that allows tracking SMBPs effect on business performance.

Table 9: Variables adopted from literature

Variable\ idea\ construct	Source(s)
Social media adoption is succeeding with some businesses, failing with others and taking more time to succeed with others	[31] [32]
Publishing high quality content	[2] [11]
stimulates audience engagement	[34] [36]
Monitoring UGC related to business.	[36]
Knowing more about the audience, competitors and their audience	[28]
Lack of awareness about the presence of the organization in social media inhibits audience engagement	[2]
Exploring prospected social media platforms for better understanding	[33] [23] [36]
Aligning social media objectives with identified business objectives	[33] [23] [32]
Messages should be tailored to fulfill the targeted audience group	[2] [36]
Evaluating employees engagement with SMBPs using right KPIs	[24]
Avoiding the implications of social media misuse	[23]
Identifying social media team members (internal actors) Human resources (HR) is responsible for assigning the tasks of designing, implementing social media strategy and budgeting needs of social media adoption to the social media team	[33] [23] [17] [32]
Announcing adopted social media platforms	[34] [23]
Factors affecting the selection of social media platform	[33]

Ideas, variables, and constructs presented in table 9 have been adopted and assisted in the development of the solution framework. It is important to declare that the developed framework is an enhanced extension for previous social media adoption frameworks. [33], [23], [32], [36] and [37] frameworks significantly contributed in setting main stages for successful social media adoption in business context. In the journey of social media adoption, the main milestones are: identifying business objectives and linking them with social media objectives, formalizing organizational use of social media and learning about prospected social media platforms.

The audience has to be segmented based on their interests and demographics which enables targeting a certain group with marketing messages. This is in line with [1]'s point of view that implies targeting a specific group of audiences segmented based on demographics and interests as stated by [28], in the same context [36] supposed that marketing effort should be directed to a specific group.

Further, [24]'s method posits that for successful engagement with SMBP, social media key performance indicators (KPIs) should be defined, measured and analyzed for taking corrective action. Adoption model of [23] tied successful engagement of social media with organization's ability to develop social media policy that defines users inside business; this is consistent with [17] who suggested solutions to raise employees' engagement level with SMBPs through stating policy rules conformed to labor authority in underlying country to govern usage and mitigates misuse of such technologies. [2] Believes that government profiles in social media have to be advertised since the lack of citizen's awareness is the main reason for not engaging with them.

Finally, factors affecting the adoption process should be considered, which is partially aligned with [33], since he stated that understanding community demands and trends of social media is a decisive factor in selecting social media platform to adopt, in addition to other factors.

Findings from previous studies and primary data have been synthesized so that they support building a framework for social media adoption that considers stakeholders' requirements and factors that may affect the adoption process either positively or negatively. Social media adoption is going into four stages and a preliminary stage determines the applicability of adoption in the underlying business as shown in figure 2.
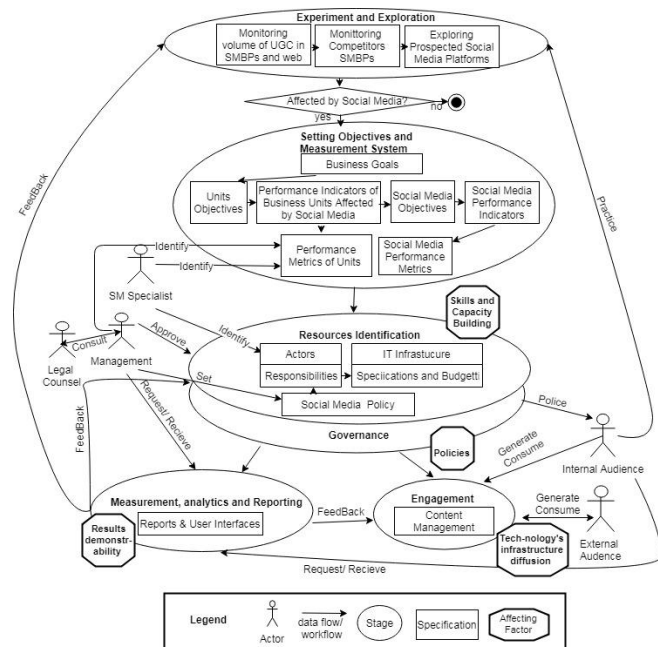

Figure 2: Social Media Adoption Framework

Determining whether social media is fitting business or not, is a prerequisite for the decision of going through adoption road or quitting. The social media adoption

framework consists of four stages where each stage consists of sub-tasks involves setting specifications. Before investing in social media, advocators inside business should monitor UGC in its SMBPs, in addition to UGC of competitors' SMBPs if there is [36] proposed monitoring customers/prospects' opinions about business as a key task in her social media strategy framework, meanwhile [28] discussed the importance of analyzing audience presence in social media. Studies by both [31] and [32] indicated that social media succeeds with some businesses, fails with others and takes more time to stabilize with others, this is consistent with study finding (Table 4) that shows that employees are believing that some business units have more potential to gain improvement in their performance than others. If business found adequate volume of related UGC then it can move ahead and invest in social media adoption, otherwise, if business is already adopting social media systematically and gets the same result, then social media may not fitting its business type, industry or perhaps business unit and investment on social media should be limited or stopped. In his social media model; [37] was supporting this position through having a "go / no go moment" stage where a decision was taken by investing in social media or not, based on whether it will solve the problem(s) of underlying business (units). At this preliminary stage, advocators of social media inside the business are informally exploring prospected platforms and learning their features. Models by [33], [23] and [36] are aligned with this requirement as they suggested exploring and learning about social media platforms as a prerequisite of deployment. The journey of social media adoption starts with identifying business objectives then setting up the measurement system which was missed by surveyed employees as they appear not informed about the performance of business units (table 1). Directors of units that may gain enhancement in performance from the use of social media and this enhancement could be tracked using the web and social media are cooperating with social media specialists for explaining how their units will take advantage from the use of social media and then specifying business performance indicators and metrics of such indicators. Based on business performance indicators, objectives from the use of social media, social media performance indicators and related metrics are specified and specifications of social media analytics software are identified. Studies by [33] and [32] dealt with aligning business objectives with social media objectives as an essential ingredient of their adoption frameworks. Further, [22] in addition to [23] considered a lack of metrics of social return on investment (ROI) as a factor hinders getting management approval. Author [24] at his study for managing and monitoring the use of social media inside the organization found that the right key performance indicators (KPIs) should be identified for evaluating employees' engagement with SMBPs. This

position is captured with study result (table 3) that shows a lack in employees' awareness regarding the performance of SMBP(s), this could aid in assessing the impact of social media on business. Having well-prepared metrics simplifies assessing engagement levels of units' representatives who are responsible for publishing content and interacting with customers and exploring cases of social media misuse.

Social media policy should be formulated to handle issues such as mitigating risks caused by not being at social media at all; content harming business reputation due to internal audience misuse of social media and web when the employer is identified, or external audience posts; in addition to quality of content published in SMBP(s). Cases of social media misuse that implies disciplining the internal audience also stated in the policy and exemplified. Management needs to consult a legal counsel to formulate an updated social media policy that conforms to national labor regulations. [38] in their study for drafting social media recommended referring to national labor regulations and being specific regarding acceptable and non-acceptable behavior in social media. However, social media formulation takes time to be completely finished since new cases emerge with time and delivered as a part of the employee's handbook; since some issues emerge during the use of such new technologies.

Study result (table 1) shows that the level of employees' engagement with SMBPs was not acceptable, this perhaps due to no employee members officially assigned to the task of posting in social media; this makes them feel not liable regarding SMBPs. This result distinguishes guidelines for social media policy over [38] study via revealing the importance of identifying who is responsible for managing SMBP(s) and what is assigned responsibilities.

As business goes deeper into the adoption process there may be a need for more than one social media specialist. Individuals from units identified at the first stage of the framework, are selected and communicated about their responsibilities towards SMBP(s) and should follow guidelines of social media policy. The social media team selects social media platforms that will officially host SMBPs. Findings of the study revealed that employees were not aware of evident SMBP(s) and how many platforms are hosting them (table 1) (table 2), respectively; this implies introducing pilot SMBP(s)to the audience in traditional media and linking them with organization's website.

Social media specialists are liable for setting specifications for acquiring IT infrastructure needed for managing and analyzing user-generated content and asking management for approving the budget. Usually,

no one analytics solution will be enough for analytics and there may be a need for developing such software in house. Although there is no holistic academic work that indicates the criteria for selecting social media analytics tools, the practitioners had contributions in this area such as works of Sims and [34]. A number of factors are affecting the decision of choosing platform(s) that will host SMBP(s) such as required metrics, popularity of platforms in-country as revealed from study findings (table 6) the domination of specific platform in Sudan, degree of freedom and policies [33] since some countries has a degree of censorship upon internet and social media [39], how platform's building blocks assist in achieving objectives of business unit. [40]'s framework could be used as a guideline for choosing social media platforms based on dominant building blocks which should be given more attention for achieving the required objectives [41].

One of the apparent factors that hinder the adoption process is lack of management support which in turn affects approving the budget for resources (time, training, skilled employees and finance). Management hesitation in approving budget refers to their need to see the results (effect) of social media upon business, figure 3 depicts the idea. Findings from the study show that since the level of engagement with SMBP is under acceptable level (table 1); social media specialists are used to co-operating with selectees from units to produce high-quality content lets the audience perceive the value of business, products or services. This is aligned with [11] finding, that publishing high-quality content positively affecting audience engagement. [35] states that marketing effort should target a specific group(s) of the audience, this implies firstly defining the group [2] based on criteria such as interests [28] and demographics.
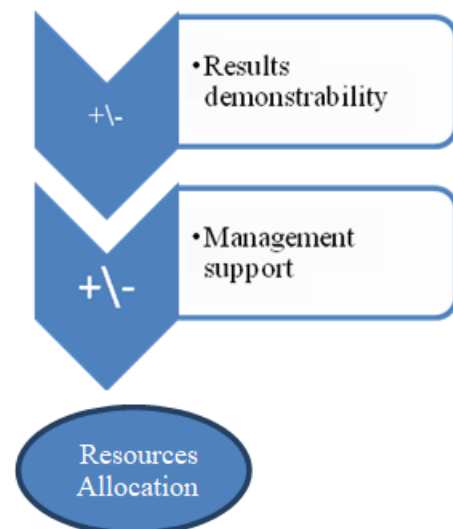

Figure 3: Effect of Demonstrable results upon resources allocation

Engagement with customers goes concurrently with the stage of analytics and reporting for the sake of discovering risky content in near real-time which enables taking corrective action and mitigating such risk. Based on defined business objectives corresponding to social media objectives, the most fitting social media analytics (SMA) techniques are applied. To exemplify, the analytics solution should measure the degree of centrality and eigenvector centrality to satisfy the objective of developing a loyalty program for influencing customers. Graphical user interfaces are designed to generate scheduled reports and on-demand reports for advanced users who need them. Furthermore, the performance of the units' representatives is evaluated using appropriate social media metrics.

5. Validation of Framework

Herein, two test cases [42] will be discussed to validate framework components: setting objectives, resource identification, capacity building in addition to experiment and exploration. The components have been validated against two performance indicators related to marketing and public relations units, respectively.

5.1. Brand awareness

A relatively new higher education institution working in Khartoum, Sudan, since 2007, aims to increase its brand awareness in the market through a number of mediums; one of those mediums is institute's website which in turn, as all business websites, is targeting increasing awareness (Budd, 2012) toward institute. Using this use case the researcher aims to show the importance of setting correct measures (in this case, leads) for underlying objective (in this case raising brand awareness). This has been achieved by measuring traffic referrals to the institute's website that was originating from their SMBP on Facebook. Sources of traffic referral to the institute's website were collected in the period from 8th May 2018 to 18th August 2018. The institute was using WordPress for website development, therefore one of the website administrators was asked to install Google Analytics Dashboard for WordPress (GADWP) plugin in WordPress to enable data collection, then using Google Analytics the referral sources for the underlying period was collected and analyzed to know the percentage of referrals that were coming from SMBP to evaluate its performance and taking corrective actions if needed. Data collected by Google Analytics (Figure 4.a) have shown that the 58.4 of institute's web site visits were originating from Facebook (m.facebook.com, l.facebook.com, lm.facebook.com, and facebook.com) which indicates its importance in attracting attention to the institute. In the context of engagement, taking a look at the average of session duration can tell that most average time was spent on the website also was 16 minutes originating from those who were coming from Facebook. Perhaps those measurements look fancy and

indicate how powerful SMBP is, but, taking a deep look at (Figure 4.b) shows that conversion metrics are zeroed which indicates to the absence of objectives identification; which in turn should be set up in analytics tool for the sake of comparing achieved goals with targeted ones. The web site has a student registration page that could be set up as the destination in goals part of Google Analytics to measure the number of leads (e-payment is not a part of the registration process). Even after identifying correct IT resources and personnel, there was a shortcoming in capacity building.

Source	Acquisition			Behavior		
	Users	New Users	Sessions	Bounce Rate	Pages / Session	Avg. Session Duration
	81 % of Total: 21.77% (372)	**68** % of Total: 18.28% (372)	**133** % of Total: 22.20% (599)	**46.62%** Avg for View: 52.09% (-10.50%)	**2.99** Avg for View: 2.65 (12.74%)	**00:05:11** Avg for View: 00:04:05 (26.70%)
1. m.facebook.com	**25** (29.07%)	**22** (32.35%)	**25** (18.80%)	60.00%	2.32	00:01:28
2. lm.facebook.com	**18** (20.93%)	**12** (17.65%)	**25** (18.80%)	32.00%	2.60	00:03:09
3. ar.m.wikipedia.org	**17** (19.77%)	**16** (23.53%)	**17** (12.78%)	52.94%	2.59	00:03:31
4. l.facebook.com	**6** (6.98%)	**5** (7.35%)	**43** (32.33%)	46.51%	3.53	00:08:34
5. wikiwand.com	**6** (6.98%)	**2** (2.94%)	**8** (6.02%)	50.00%	4.25	00:07:49
6. t.co	**4** (4.65%)	**3** (4.41%)	**4** (3.01%)	50.00%	2.00	00:00:25
7. ar.wikipedia.org	**3** (3.49%)	**3** (4.41%)	**3** (2.26%)	0.00%	4.00	00:04:44
8. webometrics.info	**2** (2.33%)	**1** (1.47%)	**3** (2.26%)	66.67%	1.67	00:07:43
9. arabo.com	**1** (1.16%)	**0** (0.00%)	**1** (0.75%)	0.00%	6.00	00:02:08
10. facebook.com	**1** (1.16%)	**1** (1.47%)	**1** (0.75%)	0.00%	9.00	00:16:09

Figure 4.a: Analytics of Referrals Sources.

5.2 Competitive intelligence

Operator A is a relative newcomer to the telecommunications market in Sudan; it was aiming to have an idea about Operator B's activity on social media, know the sentiments of Operator B's customers and their aspirations, and have an idea about the level of engagement of their customers.

Behavior			Conversions		
Bounce Rate	Pages / Session	Avg. Session Duration	Goal Conversion Rate	Goal Completions	Goal Value
46.62% Avg for View: 52.09% (-10.50%)	**2.99** Avg for View: 2.65 (12.74%)	**00:05:11** Avg for View: 00:04:05 (26.70%)	**0.00%** Avg for View: 0.00% (0.00%)	**0** % of Total: 0.00% (0)	**$0.00** % of Total: 0.00% ($0.00)
60.00%	2.32	00:01:28	0.00%	0 (0.00%)	$0.00 (0.00%)
32.00%	2.60	00:03:09	0.00%	0 (0.00%)	$0.00 (0.00%)
52.94%	2.59	00:03:31	0.00%	0 (0.00%)	$0.00 (0.00%)
46.51%	3.53	00:08:34	0.00%	0 (0.00%)	$0.00 (0.00%)
50.00%	4.25	00:07:49	0.00%	0 (0.00%)	$0.00 (0.00%)
50.00%	2.00	00:00:25	0.00%	0 (0.00%)	$0.00 (0.00%)
0.00%	4.00	00:04:44	0.00%	0 (0.00%)	$0.00 (0.00%)
66.67%	1.67	00:07:43	0.00%	0 (0.00%)	$0.00 (0.00%)
0.00%	6.00	00:02:08	0.00%	0 (0.00%)	$0.00 (0.00%)
0.00%	9.00	00:16:09	0.00%	0 (0.00%)	$0.00 (0.00%)

Figure 4.b: Analytics of Referrals Sources.

Posts of both operators been scraped from their official Facebook pages with a Python script, manual content analysis was performed on the posts during the period from Oct 2017 to Dec 2017 (360 posts after excluding eleven empty posts). Each post whether it was textual, video or photo is related to one of four topics as shown in table 10. Analysis of results informs operator A that its competitor is outperforming in terms of posts and having a new posts category (job advertisement) as depicted in figure 5. Such results give the organization an idea about competitor's activity on social media, also organization can go further and know from comments the sentiments of competitor's customers and their aspirations. The results show the importance of learning from competitors' best practices that come at the experiment phase.
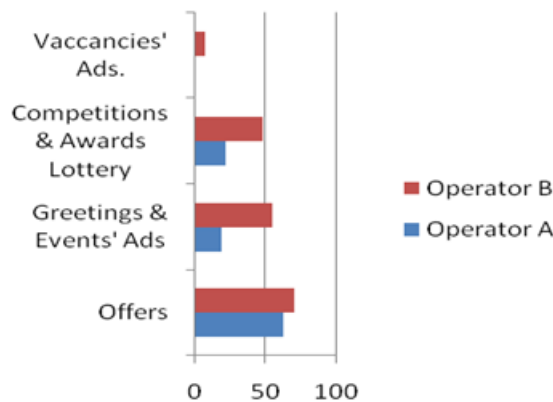

Figure 5: Number of Posts in Main Topics at Operators' SMBPs

6. Conclusion and Future Work

Gaining value from organizational use of social media implies the strategic use of such technologies. Literature in the last decade illuminates several social media frameworks; such frameworks were aiming to regulate the use of social media in organizations. The reviewed frameworks overlooked linking performance of business units with SMBPs performance, factors affecting adoption process and technical aspects of showing the impact of organizational use of social media. The main concern of this research is to improve performance indicators in business by filling a gap in extant social media frameworks. Weaknesses in previous frameworks have been identified via extracting vital variables after conducting a cross-sectional analysis for data related to employees' experience regarding the use of social media in their organizations and variables from literature and stakeholder analysis, synthesizing variables resulting in its phases (components). The framework components have been validated using two use cases. This work could be extended through integrating modules of transaction systems that will be affected by social media with social media analytics software in order to report performance metrics of both social media and business units.

Table 10: Summary of Main Topics in OPERATOR A and Operator B Facebook SMBPs

Topic	Example Post
Offers	زين بين الشراكة مجان .. مع #زين_سودان بوك "الفيس وفيسبوك السُودان https://youtu.be/VPJoboCW2Dg #عروض_زين #زين_عالم_جميل #Operator B_Free_Facebook
Greetings & Events' Ads	للتبادل ملتقى الدولي كرمكول مهرجان" "جمعةمباركة" من ومختارات السودانية الفنون بين الدولي، الثقافي بصرية فنون مسرح، سينما، العالمية. موسيقى، العروض OPERATOR A "برعاية وأدب
Competitions & Awards Lottery	ماهو اسم المؤتمر الذي عل كواجهة ثقافية لطلاب " "المعاهد العليا وطالب فورا بتصفية الاستعمار؟
Vacancies' Advertisements	".. عالم #زين في بك مرحباً للتقديم 25 يناير 2018 آخرموعد. موقعنا زوروا الطلبات وتقديم التفاصيل من للمزيد الإلكتروني : https://careers.Operator B.com/careers/Operator Bgroup/home.aspx #وظائف_زين "#زين_عالم_جميل"

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