SMashIng: Social media and open innovation

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Snapshot of the report

Social media offers tremendous potential for ‘open innovation’: through digital networks, knowledge can flow in and out of firms, rapidly generating new ideas and accelerating innovation. The SMashing survey of firms in Europe and Australia found that firms were already leveraging this potential:

- 87% of the firms surveyed (290 firms) indicated that they use social media for innovation;
- Within this group, 68% use social media for innovation regularly.

This report focuses on the 290 firms that reported using social media for innovation.

While firms are concerned about the reputational and security risks attached to the use of social media, they also see benefits from its use. For firms in the study, social media has been particularly successful in improving communication flows, both within the organisation and with external communities. Social media has also delivered economic benefits for many firms in the study, including entry to new markets, increased efficiency and productivity and higher revenues from new products and services.

Public social media, such as Facebook, Twitter and LinkedIn, is the most extensively used form of social media. It is seen as very accessible and is favoured by micro-enterprises in particular. More customised forms of social media, such as company-built or licensed networking platforms, tend to be used by medium to large firms. These larger firms report that they derive significant value from their use of social media.

For firms that want to increase the uptake of social media by employees, there were some clear messages from the study. Regardless of the size of the firm, it is important that staff have training in the use of social media and that managers actively promote social media by themselves being users of social media.
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## Erratum (10 December 2018)

After initial publication in September, an error was discovered in one figure so the report has now been updated to remove this figure. Some additional information has also been provided about the sample structure.
Executive summary

**Background**

Social media (SM) is a powerful tool for firms to use to expand their networks and to collaborate with a broad range of actors to generate new ideas and projects. Given these features, SM would seem to be a natural partner of innovation. The SMashIng project on social media and innovation sought to test this view, and to understand how innovative firms are using SM and the impact SM is having on innovation.

The SMashIng project has several research streams. This report sets out the results of a survey of firms across Europe, the UK and Australia. However, case studies within this report are used to present the results of some of the other SMashIng research streams.

The focus of this report is on those firms within the survey that reported using SM for innovation. Only 13% of the firms surveyed indicated that they were *not* using SM for innovation. This report analyses the remaining 87% of respondents (or 290 firms).

**The role of SM in innovation**

Firms are very much alert to the risks associated with SM and its potential to create technical and reputational problems for an organisation. However, these risks are not creating obstacles to the use of SM:

- 68% of the firms in the study use SM for innovation ‘almost always’ or ‘often’; and
- 86% of organisations think that SM creates great value for their organisation.

For the purposes of this study, innovation activities were grouped into three main phases:

- Ideation – fundamental R&D, idea generation/ideation and idea screening;
- Design – concept development, technical implementation and design of products and services; and
- Testing and commercialisation – beta testing and market testing, market and business analysis and commercialisation and improvement.

Looking across all types of SM platforms, SM can be seen to contribute to all three phases of innovation.
Benefits of using SM

Organisations in the study were particularly positive about the communications benefits of SM, with over two-thirds of firms reporting improvements in:

- External communications;
- Internal communications; and
- Diffusion of information and knowledge.

However, the organisations in the survey also saw economic benefit in the use of SM, especially in relation to:

- Entry to new markets;
- Increased efficiency/productivity and higher revenues from new products or services; and
- Increased market share.

The use of public SM in innovation

This study considered four different types of SM platforms:

1. Public Social Media, such as Facebook, Twitter, LinkedIn, YouTube.
2. Company-built Social Media, for both internal and external networking.
3. Company-licensed Social Media, including platforms such as IBM Connections, Microsoft Yammer/Sharepoint and Jive.
4. Innovation Intermediary Social Media, which enable organisations to put their unsolved problems and unmet needs out to the crowd to address.

Across the firms in the study, 93% use public SM for innovation. One of the key drivers for the high use of public SM would seem to be the very positive perceptions around its accessibility. Users of public SM were also very positive about its capacity to create new combinations of ideas and knowledge.
Public SM was especially used by micro-enterprises.\(^1\) By contrast, the other forms of SM were more likely to be used by medium to large firms. Innovation intermediary SM was particularly the domain of large firms (those with more than 250 employees).

### A geographic perspective

To understand whether there were any important geographic differences in the use of SM for innovation, the data was consolidated into four regions:

- The UK and Northern Ireland;
- Nordic countries: Denmark, Sweden and Finland;
- Other European countries: Germany, the Netherlands and Switzerland;
- Australia.

Across a number of questions, there were differences in the way that Australian organisations deployed SM and the outcomes they realised, particularly when compared to organisations from Nordic countries and from continental Europe. These differences were most notable in relation to company-built SM.

- It is more common for company-built SM to contribute to innovation in the ideation phase in Australian organisations.
- The application of company-built SM is more likely to lead to innovation in business models in Australian organisations.
- Australian marketing, sales and communications departments in particular make greater use of company-built SM to foster innovation compared to their counterparts in other regions.

Some regional differences were also found when it came to barriers to the use of SM.

- A lack of recognition of the inputs provided by SM was much more significant as a barrier to use in the UK and Northern Ireland than in Australia.
- However, Australian organisations were much more concerned about SM getting out of control in a crisis situation than organisations in the UK and Northern Ireland.

\(^1\) Defined as firms with 0-9 employees. This definition is based on the European definition of enterprise. See http://ec.europa.eu/eurostat/web/structural-business-statistics/structural-business-statistics/sme
Facilitating the use of SM

This study also provided the opportunity to investigate how the use of SM could be facilitated in firms. A clear finding from the study is that if managers are not seen to use SM, and if there is no training for staff, then there will be a lower take-up of SM across a firm, regardless of the size of that firm. For firms that want to encourage greater use of SM, the survey also has some important recommendations specific to each type of SM:

- For **public SM**, the use of SM by senior managers was reported to be the most common strategy to facilitate the use of SM, followed by a supportive corporate culture and internal training on the use of the tools.

- For **company-built and licensed SM**, the most important facilitating activities were:
  - Internal IT support for usage;
  - Internal rules and guidelines; and
  - Clear responsibilities for content.

For **innovation intermediary SM**, internal rules and guidelines seem to have the most important role to play.

Developing good SM tools for firms of all size is important in the context of innovation as is an understanding of the most appropriate facilitation mechanisms to put in place within firms. The survey shows that large firms are reporting greater value to their organisation from SM than micro-enterprises and this may be connected to the fact that micro-enterprises are mainly using public SM while large firms are more likely to be using a greater range of SM tools, and particularly innovation intermediary SM. Innovation strategies that leverage the relatively cheap and accessible public SM can be successful. However, greater benefits are reported by those firms who are using a broader range of SM, including SM that is more tailored to their requirements.
Introduction

Social media (SM) constitutes a significant development for the functioning of organisations. It has changed the way in which organisations view users’ roles, their social interactions and their content use and needs. For instance, SM enables fast interactions (short messages) and multi-directional communication (one-to-one, one-to-many or many-to-many). These developments reveal a tremendous potential for innovation: SM is an effective way of generating ideas by supporting collaboration amongst multiple actors operating in different social spheres.

While these behavioural changes can exert a positive impact on innovation, they do not come without risks from an organisational point of view. New methods of exchange, and especially the public and frequent manner of interacting which is fostered by SM, highlight new threats and opportunities for innovative organisations. SM is a phenomenon that can be neither truly restricted nor fully controlled. Consequently, the emergence of this new generation of communication tools presents new challenges for organisations.

In response to this, the SMashIng (social media and innovation) research project was established to shed light on the impact of these new media on innovation. SMashIng is a collaboration between research teams from three countries: the Centre for Business and Social Innovation at the University of Technology Sydney (Australia); Medi@Lab-Geneva at the University of Geneva (Switzerland); and the Luxembourg Institute of Science and Technology. The work of the research team focused on:

- Analysing how SM is being used as part of organisational innovation processes; and
- Identifying organisational best practices that enable companies to foster the productive use of SM.

This report sets out the key findings from a survey of firms, conducted as part of the SMashIng project. Case studies within this report showcase findings from some of the other research streams within the SMashIng project.
Method

Data sources
The principal purpose of this report is to present the findings from a survey of organisations based in Europe, the UK and Australia. The survey database comprises 290 organisations that reported using SM for innovation. To contextualise key findings, this report also draws on 60 qualitative interviews about social media and innovation.

The case studies presented in the report are based on work conducted for other research streams within the SMashIng project. The data sources for each case study are set out within the case study.

Survey

How was the survey conducted?
For this research we chose an on-line survey method. Qualtrics, an online research specialist, provided the survey panel and also administered the survey.

A copy of the survey sent to participating organisations is included in the Appendix to this report. The survey was typically completed by someone in the role of:

- Director or another high level management role, such as Chief Executive Officer, Chief Strategy Officer or Chief Operating Officer;
- Innovation manager; or
- Digital manager.

Where were survey participants drawn from?
Participating countries were selected based on a combination of factors:

- Success in innovation rankings, using:
  - World Economic Forum Networked Readiness Index 2015;
  - European Union Innovation Scoreboard 2015;
  - World Economic Forum Global Competitiveness Report 2015; and
  - IMD World Competitiveness Ranking, 2015;
- Availability of data through Qualtrics;
- Participation in the project.
Respondent organisations therefore came from eight different countries, as shown in the table below.

**Table 1: Geographic base of participating organisations**

<table>
<thead>
<tr>
<th>Country</th>
<th>N</th>
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</thead>
<tbody>
<tr>
<td>Australia</td>
<td>34</td>
</tr>
<tr>
<td>Denmark</td>
<td>31</td>
</tr>
<tr>
<td>Finland</td>
<td>35</td>
</tr>
<tr>
<td>Germany</td>
<td>34</td>
</tr>
<tr>
<td>Netherlands</td>
<td>31</td>
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<tr>
<td>Sweden</td>
<td>34</td>
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<tr>
<td>Switzerland</td>
<td>57</td>
</tr>
<tr>
<td>UK and Northern Ireland</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>290</strong></td>
</tr>
</tbody>
</table>

*Source: SMashing survey, 2017*

**What industry sectors are included in the survey?**

The industry sector most highly represented in the survey is information and communications: almost one-quarter of respondents (23%) operate primarily in this sector.

The distribution of industry sectors is shown in the figure below. The ‘other’ category includes industry sectors such as:

- Electricity, gas, steam and air conditioning supply;
- Water supply; sewerage, waste management and remediation activities;
- Accommodation and food service activities;
- Luxury goods (manufacturing and/or sale);
- Real estate activities.
What is the age of the organisations in the study?

The organisations in the study were grouped into four age categories and these are shown in the figure below. The respondent organisations tended to be well-established: organisations were typically aged between five and 24 years. Only 10% of participating organisations were less than five years old.

Source: SMashing survey, 2017
What is the size of the organisations in the study?

Respondent organisations were allocated to a size category according to number of employees. The size categories were developed following the European definition of enterprise. Analysis of the results show that half of the respondent database consists of large companies (those with more than 250 employees) and 20% consists of micro-enterprises (less than 10 employees).

**Figure 3: Size of participating organisations**

![Size of participating organisations](image)

Source: SMashing survey, 2017

What is the client profile of the participating organisations?

The survey asked respondents whether the majority of their clients were private consumers or other enterprises. For the most part, the organisations in the study (71%) provide goods and services to private consumers. The remaining 29% service other enterprises.

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Implications for analysis

In view of this profile, additional analysis was undertaken to address the following issues:

- The high presence of information and communications companies in the survey raised a question as to whether this could have influenced the survey results, as SM could be regarded as more integral to their operations than for other types of firms. To account for any possible effect, a selection of key survey questions were analysed by industry sector to understand whether this has impacted on particular results. No differences were found by industry for level of use of SM or perceptions of the value of SM.

- Given the significant representation of large organisations in the study, survey results have been interrogated to understand whether organisational size has impacted on particular results. Differences were found and these are reported in the following sections.

Interview program

As part of the SMashIng project, over 60 qualitative interviews were conducted with innovation professionals, digital experts or senior managers. The majority of these were taped but, in some cases, only notes were taken due to confidentiality or other issues.

Examples of the open-ended questions asked are set out below.

- Could you tell me about the innovation culture in your organization?
- Do you believe that SM fosters innovation? If so, how, in what way?
- In which of the innovation phases and functions does SM play a role? What type of SM is being used?
- Can you give me examples of SM's impact on innovation in your company?
- How often do you use social media (how many hours per week) and what are your usages of SM, both personally and professionally.
- How do you see the risks and limits associated to SM within your enterprise?
- How would you describe your company's innovation ecosystem?

Throughout this report, quotes from these interviews are used to amplify the survey results.
Social media in a business context

‘Social media’ can be broadly defined as web-based communication tools that enable people to interact with each other by both sharing and consuming information. SM uses web-based and mobile applications to create interactive platforms upon which individuals and communities can share, co-create, discuss and modify user-generated content. Organisations use social media platforms both internally and externally.

Given the many different manifestations of SM, this study distinguishes between four forms of SM.

1. **Public Social Media, such as Facebook, Twitter, LinkedIn, YouTube.**

2. **Company-built Social Media.** These platforms can provide the capacity for purely internal social networking (as in the case of IBM Beehive) or can be opened up to allow the public to participate and submit ideas (My Starbucks Idea).

3. **Company-licensed Social Media.** Platforms such as IBM Connections, Microsoft Yammer/Sharepoint and Jive aim to create a digital workplace by enabling a company’s employees to collaborate and connect. This network can be extended to partners and customers. However, unlike public social media platforms such as Twitter, membership can be controlled so that members can only connect with other members who belong to the same email domain. More recently Facebook has offered an enterprise solution called Facebook Workplace that functions like Company-licensed Social Media.

4. **Innovation Intermediary Social Media.** These platforms enable organisations to put their unsolved problems and unmet needs out to the crowd to address. These problems are often framed as ‘challenges’, and the crowd can either be external (an established network of problem solvers) or internal (an organisation’s employees, partners or customers). Examples of this type of SM include Innocentive, NineSigma and OneBillion Minds.

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3 https://www.lifewire.com/what-is-social-media-explaining-the-big-trend-3486616
This categorisation of SM platforms led the research team to study some of the other characteristics of these social networks, as illustrated in the figure below. The notions of open access and high disclosure can help distinguish the functionalities of these different SM categories and explain the context in which these social networks are being used.

**Figure 4: Categorisation of SM platforms**

Defining ‘innovation’

Innovation is a strategic objective for both governments and enterprises as the most effective path to sustain competitive advantage and growth. Schumpeter’s definition of innovation, namely novel combinations of resources, knowledge and ideas, is still applicable today.\(^4\) Digital networks such as SM enable the merging of diverse and heterogeneous resources and information, increasing new combinations of resources, knowledge and ideas and thus boosting knowledge flows. The use of SM in professional and personal environments has increased in the last decade to become an intrinsic part of our lives. With billions of active users, digital social networks are revolutionising the way we communicate. These networks should in theory be extremely effective in boosting innovation as they foster diverse and heterogeneous contacts. More specifically, by using sources outside the enterprise to generate innovation, SM networks can be regarded as facilitating ‘open innovation’.

According to Chesbrough, “open innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation, respectively. [This paradigm] assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology.”\(^5\)

Building on this early definition, Chesbrough and Bogers describe open innovation as “a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization’s business model. These flows of knowledge may involve knowledge inflows to the focal organization (leveraging external knowledge sources through internal processes), knowledge outflows from a focal organization (leveraging internal knowledge through external commercialization processes) or both (coupling external knowledge sources and commercialization activities).”\(^6\)

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The concept of ‘open innovation’ has been employed as the cornerstone of our analysis throughout the SMashIng project as innovation fostered through SM is representative of this new model of innovation.

Within this concept, we have analysed innovation patterns within firms according to functional innovation such as:

- Product or service innovation;
- Organisational or process innovation;
- Marketing, design & advertising innovation;
- Business model innovation;
- Logistics, delivery or sales channel innovation.

Innovation has also been defined from the perspective of innovation phases such as:

- Fundamental R & D;
- Idea Generation/Ideation;
- Idea Screening;
- Concept Development;
- Technical Implementation;
- Beta Testing and Market Testing;
- Market and Business Analysis;
- Design of products/services;
- Commercialisation and Improvement.
How are organisations using social media?

SM is regarded as an important tool for innovation by firms in the study.

Among the organisations in this study:

- Just over two-thirds (68%) use SM for innovation ‘almost always’ or ‘often’; and
- A large majority (86%) think that SM creates great value for their organisation.

“Working for France Télévisions, I have witnessed how Social Media has become the cornerstone of our strategy and is key to creating innovation for our organisation.”

Caroline Got, Director Strategy and Programs, France Televisions

“The business case of my company Loyalme is strongly linked to leveraging Social Media by creating loyalty programs for major FMCG brands. Consequently not only does Social Media create innovation, it is the engine for innovation in my company.”

Konstantin Rodchenko, CEO, LOYALME

“Undoubtedly we use Social Media for innovation purposes. However innovation is a very complex topic involving many issues from ensuring the best communications between our employees to understanding the timing of new technology introductions. I do believe the understanding of the locus of innovation, as in the places where innovation happens, and its enablers are very important.”

C-level Executive, Motorola Solutions

“There are different types of Social Media and these new types of communications foster innovation, even in my industry where in house R&D still remains key. In an interconnected world where knowledge flows accelerate at an unprecedented pace, Social Media plays an interesting and important role for innovation.”

Jean-Marie Saint-Paul, Regional Director, Mentor Graphics
“In a world where cross-fertilization of knowledge and fostering innovative ecosystems are enablers to winning the “de facto standard” wars, Social Media has a promising place within organizations.”

Ajit Kahaduwe, Head of Innovation Incubation, Nokia Bell Labs, USA

“As an entrepreneur, I was surprised about the valuable information I discovered through Social Media. Indeed Social Media enabled me to be more innovative during the process of the creation of my projects.”

Dorothee Lepere, Entrepreneur

For the purpose of analysis, the different phases of innovation were merged to create three main stages. Looking across all types of SM platforms, SM can be seen to contribute to all of these main phases of innovation.

Table 2: Overall contribution of social media to phases of innovation

<table>
<thead>
<tr>
<th>Innovation phase</th>
<th>Elements</th>
<th>Respondents using SM in their organisation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideation</td>
<td>Fundamental R&amp;D, idea generation/ideation and idea screening</td>
<td>89%</td>
</tr>
<tr>
<td>Design</td>
<td>Concept development, technical implementation and design of products and services</td>
<td>88%</td>
</tr>
<tr>
<td>Testing and commercialisation</td>
<td>Beta testing and market testing, market and business analysis and commercialisation and improvement</td>
<td>93%</td>
</tr>
</tbody>
</table>

Source: SMashing survey, 2017
Public social media is well-used by firms and is regarded as very accessible. There is less understanding of, and comfort with, other forms of social media. Across the firms in the survey, 93% indicated that they use public SM to innovate. This is a far greater proportion of respondents than for the other types of SM.

Figure 5: Use of social media

![Bar chart showing use of social media](image)

Source: SMashing survey, 2017

A possible reason for this phenomenon is that public SM are regarded as very accessible. This can be seen in the figure below. When asked, all survey respondents were able to rate the accessibility of public SM and the majority (71%) gave it the highest rating of ‘open to very open’. By contrast, when asked to rate the accessibility of company-built or licensed SM or innovation intermediary SM, 10-15% of respondents did not have enough understanding of these forms of SM to provide an assessment. Further, for those who were able to provide an assessment, company-built or licensed SM or innovation intermediary SM were more likely to be seen as relatively closed or inaccessible. These outcomes are probably due to the ubiquity of public SM: potential users of SM for business purposes are likely to be already quite familiar and comfortable with public SM in a personal context.
Public SM is also rated very positively – and more highly than other forms of SM – for its capacity to create new combinations of ideas and knowledge. Once again, though, the survey revealed a lack of knowledge about the capability of other forms of SM. While at least 50% of respondents gave company-built or licensed SM or innovation intermediary SM a high rating for creating new combinations of ideas and knowledge, between 10% and 20% of respondents did not know enough about these forms of SM to provide an assessment. This can be seen in the figure below.
Public SM and company-built or licensed SM are being used by firms to support different types of innovation.

A high proportion of organisations in the study reported using SM across all types of innovation. However, further analysis suggests that SM platforms may differ in their capacity to support innovation in firms. Across the firms in this study:

- **Public SM** is more likely to be used in product or service innovation, in organisation or process innovation and in marketing, design and advertising innovation;

- **Company-built or company-licensed SM** is more likely to be used in business model and logistics innovation or delivery and sales channel innovation.

Overall, there is a lower level of usage of innovation intermediary SM.

**Figure 8: Application of social media types to innovation types**

Source: SMashing survey, 2017
“As an entrepreneur, I would not have been able to create my company without Social Media. In fact, Social Media is completely part of all our innovation processes starting from ideation for a new product to product launch. Without doubt my company and its innovation would not be the same without Social Media.”

Lucile Battail, Founder of Laboté

“Digital and Social Media have allowed me to create one of my companies and now I help other companies leverage social media in their innovation process. My favourite market for benchmarking is Estonia as they have truly created a digital democracy and vibrant entrepreneurship ecosystem. Most of the start-ups I work with in Estonia use Social Media in most steps for innovation and product/service development.”

Violaine Champetier de Ribes, Innovation Hunter, CEO Le Meunier Qui Dort & Digeetrips France

“Fast-moving consumer product and mid-tier luxury/lifestyle product development have been greatly impacted by digital and Social Media. For instance we launched a new type of form factor for chocolates thanks to Social Media feedback. Overall the impact of Social Media feed-back on the product development process and commercial launch has been huge as Facebook has become very central.”

Gregoire Vincent, Global Marketing Director, France
Public SM and company-built or licensed SM contribute significantly to innovation but have different impacts in different phases of the innovation process.

As noted earlier, when considered in the aggregate, SM contributes across all phases of the innovation process: ideation, design and testing and commercialisation. However, when segmented by type of SM, it can be seen that this contribution can vary by innovation phase.

- **Public SM** is more likely to contribute to innovation in Phase 1 (*Ideation*) and Phase 3 (*Test and commercialisation*); and

- **Company-built or company-licensed SM** is more likely to contribute to innovation in Phase 2 (*Design*).

In the testing and commercialisation phase, micro-enterprises are particularly likely to use public SM. They show a much higher usage of public SM for testing and commercialisation than both medium and large firms.

The contribution of different types of SM across innovation phases can be seen in the figure below.

**Figure 9: Contribution of social media to different innovation phases**

![Graph showing the contribution of different types of SM across innovation phases.]

*Source: SMashing survey, 2017*
Firms in this study use more sophisticated and customised types of SM as they grow in size.

While there is widespread use of SM for innovation, there are differences in the types of SM used by firms of different size. While almost all firms use public SM to innovate, large firms are much higher users of company-built, company-licensed and innovation intermediary SM than micro-enterprises.

Figure 10: Use of social media by firm size and type of social media

Source: SMashing survey, 2017

Micro-enterprises make extensive use of public SM to foster innovation, with a focus on communication, marketing, design and advertising activities.

Micro-enterprises favour public SM in their innovation practices. However, within this, there is a particular emphasis on using public SM for communications and marketing activities.

- The marketing, sales and communications functions in micro-enterprises make extensive use of public SM for innovation. Across organisations in this study, micro-enterprises had the highest usage of public SM for marketing, sales and communications while medium firms had the lowest.
- Micro-enterprises are more frequent users of public SM than medium and large firms for the specific purpose of innovation in marketing, design and advertising.
• Micro-enterprises are also more likely than medium and large firms to foster innovation by using public SM for communication and the broadcasting of information. This can include:
  – Blogging;
  – Forums;
  – News broadcasting;
  – Photo and video sharing; and
  – Live casting.

However, in some other fields, micro-enterprises make **equal use** of public SM as large firms:
• The R&D and product functions in micro-enterprises are just as likely to use public SM to foster innovation as those in larger firms.
• Micro-enterprises are also just as likely to use public SM in an innovation context for:
  – Trendspotting (for example, analysing Google trends);
  – Collaboration (through wikis and opinion sites); and
  – Stimulating participation (through online competitions and crowdsourcing).

However, within micro-enterprises, administrative functions such as human resources, finance and procurement make much less use of public SM to foster innovation than their counterparts in larger firms. This may simply be reflective of the general level of development of these functional areas in very small firms.

“*Social Media is a key resource for my activity as I am a digital consultant with my own company, I use it for the wisdom of crowds, to gather information especially trendspotting and portraying messages.*”

Axelle Larminat, Digital Consultant, France

“In Switzerland small enterprises seem particularly positive about Social Media as a cost-effective source for Open Innovation since local innovation funding caters more to large multinationals.”

Yulia Stepina, International Executive, Switzerland
Large firms use SM across all domains, and for innovation in both operational and administrative functions.

Large firms are much higher users of company-built, company-licensed and innovation intermediary SM than smaller firms. Innovation intermediary SM is particularly the domain of large firms.

In large firms, the use of SM for innovation is dispersed throughout the organisation. It is used by:

- Marketing, sales and communications departments;
- R&D and product departments; and
- Administrative departments, such as human resources, finance and procurement.

While large firms use SM across all types of innovation, they are particularly high users of company-licensed SM for logistics, delivery or sales channels. This sets them apart from firms of all other sizes.

“Embracing communications through various types of Social Media is part of our company strategy and even DNA. Strong emphasis is put on our sales channels and in fact we receive compensation for being present on Social Media for this purpose.”

Nick Walker, Strategic Account Manager, CISCO Systems, UK
CASE STUDY 1: ALPHA

This case study is based on:

- Interviews with three innovation managers at ALPHA;
- Observations taken at ALPHA’s annual corporate knowledge management event, 2014;
- Collection of secondary data such as internal reports and press articles.

ALPHA is a major global player in energy and environmental solutions, operating in 70 countries, with about 150,000 employees and a turnover of €69.6bn (in 2016). It operates in three core business areas: power, natural gas and energy services. In the early 2010s, ALPHA was faced with the major challenges associated with energy transition. Beyond the need to develop renewable energy sources as well as new energy efficiencies, there was a shift from centralised to distributed generation, with wind farms and solar parks bringing citizens into the activity of energy production.

To meet the challenges of energy transition, ALPHA undertook an analysis of the main domains in which open innovation would deliver competitive advantage. ALPHA identified three innovation priorities: (i) intelligent energy management; (ii) cities, territory and mobility; and (iii) habitat and energy performance. It then put in place a low-cost approach that allowed it to harness the potential of open innovation.

- ALPHA created a small, agile entity dedicated to open innovation: the Innovation and New Businesses unit (INBs). Reporting to the group’s Head of Innovation, the INBs unit comprises a team of about 20 people – a modest entity compared to the size of the organization – and relies on a combination of intrapreneurship, internal incubation with external partnerships and investment in high-potential start-ups and ventures.

- It implemented two ‘home-made’ SM tools.
  - The first of these was an externally-focused platform which sought to attract external skills and competencies, ideas, patents, R&D projects and start-ups.
  - The second was an internal idea crowdsourcing platform. A well-defined process is in place to screen the ideas presented. An idea only progresses further if a business unit is prepared to sponsor it and fund its development.
Ideas are also floated externally to allow for additional scrutiny but also to attract external inputs and support. If selected, the idea becomes an R&D project in a partner external incubator. The employee who developed the idea also receives a reward.

By 2016, the internal platform had 10,000 members and had processed 450 ideas. It had exceeded expectations by generating 20 employee-led projects in 12 partner incubators. By 2017, membership had grown to 13,000, with 700 processed ideas.

ALPHA’s experience identifies four key success factors for lean implementation of open innovation:

1. ALPHA controlled the potential costs and disruption of open innovation by adopting a complementary approach for open innovation. The INBs unit and the SM initiatives sat alongside ALPHA’s classical R&D activities undertaken by their 800 researchers and experts in their seven R&D units worldwide. The INBs unit generated new markets through a flow of ecosystem-pull ideas and supported their development towards maturation alongside technology-push R&D carried out in labs.

2. The new structures and processes supported the integration of external and internal ideas and resources.

3. The open innovation approach leveraged existing SM initiatives by implementing complementary tools.

4. The new SM tools were developed to be user-friendly and they were extensively promoted within ALPHA, resulting in a high level of take-up.

The experience of ALPHA demonstrates that a low-cost initiative can significantly influence innovation within a large multinational company.
Risks and rewards

Firms use SM in spite of concerns about security and organisational reputational risk.

Regardless of size, firms perceive that there are significant risks attaching to the use of SM in relation to IT and to organisational reputation, intellectual property and privacy. Their assessment of the impact of each of these risks on the take-up of SM within their firm is shown in the table below. These are ranked by level of agreement with each statement.

Table 3: Perceptions of risks relating to the use of social media

<table>
<thead>
<tr>
<th>Issue</th>
<th>Disagree/Strongly disagree</th>
<th>Neutral</th>
<th>Agree/Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reputation concerns are a barrier to the use of social media in my organisation.</td>
<td>15%</td>
<td>10%</td>
<td>75%</td>
</tr>
<tr>
<td>The possible introduction of viruses and malware to the corporate IT system is a barrier to the use of social media in my organisation.</td>
<td>16%</td>
<td>14%</td>
<td>70%</td>
</tr>
<tr>
<td>Confidentiality and privacy concerns are a barrier to the use of social media in my organisation.</td>
<td>18%</td>
<td>12%</td>
<td>70%</td>
</tr>
<tr>
<td>Possible exposure to a fraudulent or hijacked corporate presence is a barrier to the use of social media in my organisation.</td>
<td>20%</td>
<td>11%</td>
<td>69%</td>
</tr>
<tr>
<td>Concern that information on R&amp;D and innovation is too sensitive to share is a barrier to the use of social media in my organisation</td>
<td>17%</td>
<td>14%</td>
<td>69%</td>
</tr>
<tr>
<td>Fear of imitation is a barrier to the use of social media in my organisation</td>
<td>18%</td>
<td>15%</td>
<td>67%</td>
</tr>
<tr>
<td>Fear of information leaks is a barrier to the use of social media in my organisation.</td>
<td>23%</td>
<td>11%</td>
<td>66%</td>
</tr>
</tbody>
</table>

Source: SMashing survey, 2017
The perceived risks attached to the use of SM are balanced by a number of perceived benefits.

Firms reported that they have realised a range of **economic benefits** from the use of SM. Over 40% of firms in the study reported that SM has very often or always provided benefits in relation to:

- Entry to new markets;
- Increased efficiency or productivity;
- Increased revenues from new services or products;
- Increased market share.

**Table 4: Perceived economic benefits of using social media**

<table>
<thead>
<tr>
<th>Does your organisation obtain the following economic benefits from the use of social media for innovation?</th>
<th>Rarely to never</th>
<th>Sometimes</th>
<th>Very often to always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher revenues from new services/products</td>
<td>16%</td>
<td>38%</td>
<td>46%</td>
</tr>
<tr>
<td>Increased efficiency/productivity</td>
<td>19%</td>
<td>35%</td>
<td>46%</td>
</tr>
<tr>
<td>Entry to new markets</td>
<td>19%</td>
<td>34%</td>
<td>46%</td>
</tr>
<tr>
<td>Increased market share</td>
<td>16%</td>
<td>40%</td>
<td>44%</td>
</tr>
<tr>
<td>Increased profit margins</td>
<td>20%</td>
<td>39%</td>
<td>41%</td>
</tr>
<tr>
<td>Cost reduction</td>
<td>26%</td>
<td>34%</td>
<td>40%</td>
</tr>
<tr>
<td>Higher profits</td>
<td>20%</td>
<td>41%</td>
<td>39%</td>
</tr>
</tbody>
</table>

*Source: SMashing survey, 2017*

An even larger proportion of firms have realised **communications** benefits from the use of SM, with at least two-thirds of firms reporting improvements in:

- External communications;
- Internal communications; and
- Diffusion of information and knowledge.
Table 5: Perceived communications benefits of using social media

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Disagree/Strongly disagree</th>
<th>Neutral</th>
<th>Agree/Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My organisation has improved its <strong>external communications</strong> from using social media for innovation.</td>
<td>6%</td>
<td>24%</td>
<td>70%</td>
</tr>
<tr>
<td>My organisation has improved its <strong>diffusion of information and knowledge</strong> from using social media for innovation.</td>
<td>7%</td>
<td>27%</td>
<td>67%</td>
</tr>
<tr>
<td>My organisation has improved its <strong>internal communications</strong> from using social media for innovation.</td>
<td>7%</td>
<td>27%</td>
<td>66%</td>
</tr>
</tbody>
</table>

Source: SMashing survey, 2017

“The innovation potential of social media could be restricted on the one hand due to biases such as group think since one can observe substantial echo/halo effects within the web. However on the other hand, the quality of a decision is greatly impacted by the quality of the dialogue which is clearly enhanced by the large scale of web-based social media feedback.”

Olivier Sibony, Strategy professor, writer and advisor, HEC Paris, Université Paris Dauphine

Medium and large size firms are more positive about the innovation outcomes and overall value of SM to their firm.

The main innovation outcomes reported by firms as flowing from the use of SM were:

- An increase in product or service range;
- An increase in the number of new ideas; and
- Faster progression of on-going innovation projects (that is, in the movement of projects from one stage to the next).

However, these outcomes are not distributed uniformly across all firms. Micro-enterprises (that is, firms with 0-9 employees) ranked these outcomes:

- Significantly lower than large firms in the case of an increase in product or service range; and
- Significantly lower than both medium and large firms on:
  - An increase in the number of new ideas; and
  - Faster progression of on-going innovation projects.
This pattern can also be seen in the overall rating that microenterprises gave to the value of SM to their organisation. The figure below shows the average agreement level with the statement: Social media creates great value for my firm. When responses are tested by size of firm, very small firms, or micro-enterprises, have a lower level of agreement with this statement than both medium and large firms.

![Figure 11: Does social media create value for your firm?](image)

*Source: SMashing survey, 2017*
CASE STUDY 2: SMEs and social media

This case study is drawn from a survey conducted as part of the SMashing project. The survey collected both quantitative and qualitative data from 360 firms in the Geneva region from 2015 to 2016. The survey focused on digital practices and the needs of Swiss firms, especially Geneva-based small and medium enterprises (SMEs).

Although large firms seem to be leveraging various types of SM most effectively, SMEs also perceive that there are important benefits to be gained from SM as a cost effective enabler of innovation: indeed, the survey provided evidence that SMEs see key benefits in using SM as a tool for fostering innovation. The survey revealed cases where SMEs were successful in leveraging social media to create novel combinations of resources, knowledge, and ideas, thus demonstrating that ‘smallness’ can actually be an asset when leveraging digital knowledge flows due to greater agility.

SMEs often lack the resources to conduct research, especially when compared to large multinationals that can rely on everything from company-owned research laboratories to acquiring innovative start-ups. Open innovation is therefore an interesting illustration of how SMEs can leverage the potential of social media. The sample of Swiss SMEs in this study indicated that innovation within their company originated equally from internal and external sources. In other terms, open innovation was just as important as innovation generated internally. Interestingly enough, the Swiss SMEs surveyed ranked SM as the fourth most important external source of innovation. Other important external sources of innovation were:

- Feedback from users and customers;
- Third parties, such as suppliers and partners;
- Competitors.

For SMEs, SM provides access to the ‘wisdom of the crowd’. However, for Swiss SMEs, SM can be particularly important. The Swiss innovation model puts great emphasis on R&D spending in sectors such as pharmaceuticals, which means that

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Swiss SMEs benefit less from university research than their German counterparts for instance.\(^8\)

The findings also underlined the importance for open innovation of defining a digital strategy, developing data processing capabilities and putting in place a social media strategy. Furthermore, the more focus an SME put on processing data streams, and the greater their expertise in this area, the more successfully it leveraged SM for innovation purposes.

The topic of team and skills management consistently came up as a key topic in this part of the research. SM responsibilities are often given to the youngest team members since there is a perception that Millennials, as digital natives, will derive the most value from digital tools and networks. However, these are often the team members with the least social capital within the firm, which means that valuable knowledge flows from SM can sometimes be lost. SM teams need to comprise a mixture of new and more experienced employees as well as employees from different parts of the organisation. The person handling social media ideally needs to be paired with the person in charge of product innovation, be it the founder of the company or product manager, in order to ensure that communication flows foster diversity and information reaches the relevant channels. Examples of successful pairings were observed as follows: digital native with experienced employee; social media expert with product developer; an employee who joined the SME from a start-up with an employee from internal development. Pairing could be structured in a formal or informal way; this was more dependent on the SME’s company culture.

This research supports the argument that the current digital revolution can be an opportunity for smaller organizations to tap into knowledge streams that can foster innovation. SM can be leveraged by these companies as a very cost-effective tool to understand the market, obtain feedback on current and future products as well as market commercialisations; in brief to innovate.

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Overcoming barriers to the use of social media for innovation

Firms of all size face challenges in relation to the use of social media for innovation.

The study canvassed the relative importance of a range of possible barriers to the take-up of SM within the respondent organisations. The most important factors, as set out in the table below, are:

- A lack of understanding or appreciation of the potential value of SM to innovation;
- Absence of appropriate organisational policies; and
- Difficulty in identifying the right tools to use.

Table 6: Perceptions of the challenges relating to the use of social media

<table>
<thead>
<tr>
<th>Issue</th>
<th>Disagree/ Strongly disagree</th>
<th>Neutral</th>
<th>Agree/ Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organisational challenges</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The lack of recognition concerning the inputs provided by social media is a barrier to the use of social media in my organisation.</td>
<td>13%</td>
<td>13%</td>
<td>74%</td>
</tr>
<tr>
<td>The misalignment of internal policies (eg. IT and social media usage) is a barrier to the use of social media in my organisation.</td>
<td>18%</td>
<td>10%</td>
<td>71%</td>
</tr>
<tr>
<td>The lack of perceived added value from social media is a barrier to the use of social media in my organisation.</td>
<td>17%</td>
<td>13%</td>
<td>71%</td>
</tr>
<tr>
<td><strong>Technical challenges</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficulty in identifying the right social media tools is a barrier to the use of social media in my organisation.</td>
<td>14%</td>
<td>14%</td>
<td>71%</td>
</tr>
<tr>
<td>Difficulty in identifying and extracting relevant information is a barrier to the use of social media in my organisation.</td>
<td>15%</td>
<td>16%</td>
<td>69%</td>
</tr>
<tr>
<td>The expectation that no value will be achieved by adding an extra software/tool is a barrier to the use of social media in my organisation.</td>
<td>17%</td>
<td>17%</td>
<td>67%</td>
</tr>
<tr>
<td><strong>Behavioural/cultural challenges</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The lack of active promotion of social media by managers is a barrier to the use of social media in my organisation.</td>
<td>15%</td>
<td>20%</td>
<td>64%</td>
</tr>
<tr>
<td>The lack of training in the use of social media is a barrier to the use of social media in my organisation.</td>
<td>19%</td>
<td>18%</td>
<td>63%</td>
</tr>
<tr>
<td>The fear of social media being out of control in a crisis situation is a barrier to the use of social media in my organisation.</td>
<td>19%</td>
<td>21%</td>
<td>60%</td>
</tr>
</tbody>
</table>

Source: SMashing survey, 2017
What measures will facilitate the use of SM in an organisation?

A key finding from the survey is that SM will be actively used in an organisation when:

- Managers themselves use SM and promote it to employees; and
- Training in the use of SM is made available to employees.

Failure of managers to use and promote SM, and the absence of training, were considered to be the leading behavioural and cultural challenges to the use of SM across firms of all size.

The survey not only asked about barriers to up-take but also asked respondents whether particular activities facilitated the use of SM in their organisation. This question enables some conclusions to be drawn about the best way to support the different types of SM in a firm.

- For **public SM**, the use of SM by senior managers was reported to be the most common strategy to facilitate the use of SM, followed by a supportive corporate culture and internal training on the use of the tools.

- For **company-built and licensed SM**, the most important facilitating activities were:
  - Internal IT support for usage;
  - Internal rules and guidelines; and
  - Clear responsibilities for content.

- For **innovation intermediary SM**, internal rules and guidelines seem to have the most important role to play.
International differences

On some factors, there are differences between Australia and Europe in the use of SM for innovation.

To understand whether there were any important geographic differences in the use of SM for innovation, the data was consolidated into four regions. In each region, SM use was similar and distinct from SM use in the other regions. The four regions were:

- The UK and Northern Ireland;
- Nordic countries: Denmark, Sweden and Finland;
- Other European countries: Germany, the Netherlands and Switzerland;
- Australia.

Across a number of questions, there were differences in the way that Australian organisations deployed SM and the outcomes they realised, particularly when compared to Nordic and other European countries. These differences were most notable in relation to company-built SM.

Compared to all other regions in the study, Australian organisations showed some different patterns in their use of company-built SM to support innovation.

Comparing Australia to all other regions:

- Marketing, sales and communications departments in Australian organisations make greater use of company-built SM to foster innovation compared to their counterparts in other regions;
- As an innovation type, business model innovation was more likely to be supported through the use of company-built SM in Australian organisations;
- Company-built SM contributes to innovation in the ideation phase more commonly in Australian organisations.
Australian organisations showed some additional differences in their patterns of use of company-built SM to support innovation when compared to Nordic and other European organisations.

Some additional differences were observed between Australia and Nordic and other European countries. Firstly, comparing Australia to other European companies:

- R&D departments in Australian organisations make greater use of company-built SM as a means of fostering innovation than their counterparts in other European countries;
- Australian organisations were more likely to use company-built SM for the purpose of communication and information broadcasting;
- Australian organisations were more likely to support and encourage the use of company-built SM with internal rules and guidelines.

Comparing Australia to Nordic countries:

- Australian organisations were more likely to use company-built SM for the purpose of communication and information broadcasting;
- Australian organisations were more likely to develop organisational or process innovation through company-built SM.

A small number of differences were observed in the use of company-licensed SM.

The survey revealed a small number of differences in the use of company-licensed SM as between Australia and Nordic countries:

- Australian organisations had a higher use of company-licensed SM for direct one-to-one exchanges with existing and potential clients; and
- Australian organisations were more likely to use company-licensed SM for marketing, design and advertising innovation.

HR departments in Australian organisations make greater use of company-licensed SM as a means of fostering innovation than their counterparts in both Nordic and other European countries.
Some innovation outcomes are more likely to be achieved by Australian organisations through the use of SM when compared to Nordic and other European countries.

The survey asked participants to report on the innovation outcomes obtained from their overall use of SM.

- Compared to other European organisations, Australian organisations were more likely to have introduced new business lines as a consequence of their use of SM;
- Compared to both Nordic and other European organisations, Australian organisations were more likely to report that they had switched from a product-oriented business model to a service-oriented business model through using SM.

Australian organisations and organisations in the UK and Northern Ireland perceive the challenges of using SM for innovation differently.

Organisations that participated in the survey were asked to assess the importance of some common barriers to the use of SM for their organisation.

- For Australian organisations, a lack of recognition of the inputs provided by SM was much less important a barrier to use compared to the UK and Northern Ireland.
- However, compared to organisations in the UK and Northern Ireland, Australian organisations were more likely to report that the fear of SM getting out of control in a crisis situation was a barrier to its use.
CASE STUDY 3: Social media and the gender divide

This case study is derived from surveys that took place between 2014 and 2018 with a sample of over 300 innovation professionals contacted through LinkedIn. In order to avoid a bias linked to the usage of LinkedIn, a control group was created from an Executive MBA cohort of INSEAD with over 50 professionals.9

Much has been written about the digital gender divide as in many parts of the world women have a lower level of digital literacy than men. However, research conducted for the SMashIn project found that in countries with mature economies, women leverage SM more as they perceive SM to offer greater opportunities for innovation. That is, women have a more positive attitude towards the innovation potential of SM platforms. In particular, women in managerial and innovation positions seem to be making greater use of digital communications tools and rate them more highly in terms of their value.

The statistical analysis conducted identified three categories of SM users for innovation purposes:

- The first group is characterised by an average use of SM as well as a medium rating for perceived usefulness of SM across innovation phases and innovation functions. The behavioural patterns of this group demonstrate a cautious attitude concerning the innovation potential of SM and its general benefits.

- The second category embraces SM platforms and innovation tools with enthusiasm. This group is innovation driven with a positive attitude towards any type of digital tools, collaborative platforms and digital social networks. It also demonstrates strong digital maturity.

- The third group shows a negative rating for perceived usefulness of SM for innovation. This group does not favour the use of SM; on the contrary, it is viewed with suspicion instead of enthusiasm. In this context this group has a lower than

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average use of social networks combined with a negative bias towards SM as an innovation enabler.\textsuperscript{10}

In this survey, there was a proportionally stronger representation of women in the second category of ‘active social network users and innovators’.

These findings led us to refocus on the survey results with a more granular perspective on gender. In this survey, both the perceived usefulness of social network sites and perceived/self-reported use were higher for female respondents.

Table 7: Use of social network sites by gender

<table>
<thead>
<tr>
<th>Perceived/self-reported use of social network sites (average number of hours per week)</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional use</td>
<td>3.21</td>
<td>2.52</td>
</tr>
<tr>
<td>Personal use</td>
<td>2.66</td>
<td>2.41</td>
</tr>
</tbody>
</table>

Source: SMashing survey, 2015

These results align with overall statistics on SM use according to gender. During the initial phases of SM, starting in 2006, the number of men using SM was higher than the number of women. However, from 2012, the percentage of women using at least one form of SM exceeded the percentage of men.\textsuperscript{11} While these figures relate to the US market, interviews with professionals from SM companies confirmed that this is a global trend.

\textsuperscript{10} Concepts from the Technology Acceptance model, such as ‘perceived usefulness’, were used to assess the attitudes of the survey population. See Gefen, D. and Straub, D.W., (1997). Gender differences in the perception and use of e-mail: An extension to the technology acceptance model. MIS quarterly:389-400.

\textsuperscript{11} Pew Research Social Media Fact Sheet, 2018. Available at: www.pewinternet.org/fact-sheet/social-media.
To conclude, it is important to note that, within the SMashIng study, innovation has been analysed by functional categories, ranging from process innovation to customer engagement innovation, with less focus on R&D. This could explain the higher representation of women. Nonetheless, this work pinpoints the opportunities SM provides to promote diversity and support the participation of women as innovators.
Looking to the future

Greater benefits are being realised with more tailored SM solutions.

A clear pattern from the survey results is that those micro-enterprises that are using SM for innovation are mainly using public SM. While they see themselves as reaping benefits from their use of SM, they are less certain about the value of SM to their organisation than large firms. Large firms:

- Use a greater range of SM tools, and particularly innovation intermediary SM;
- Use SM across both operational and administrative functions; and
- Are more certain that SM delivers value.

Innovation strategies that leverage the relatively cheap and accessible public SM can be successful. However, greater benefits are being achieved by those firms who are using a broader range of SM, including SM that is more tailored to their requirements.

SM opportunities

SM has the potential to expand an organisation’s information network, and to allow the organisation to structure interactions within that network. More strategic use of SM could therefore underpin a more effective ‘open innovation’ process for many organisations.

On this point, it is interesting to note that innovation intermediary SM is the least used form of SM amongst survey participants. It also seems to be the least understood. The survey revealed that organisations are not confident about how to use innovation intermediary SM and are uncertain about the value it might deliver. It is currently the domain of large firms.

Innovation intermediary SM can expand an organisation’s network and bring a very large number of new actors into an organisation’s innovation process. However, innovation intermediary SM solutions may need to be re-designed, or promoted in a different way, to be attractive to very small firms.
The workforce will need effective social media skills.

Social media is a tool that is being used more and more for both private and professional purposes. Education policy makers need to be aware of social media’s role in fostering innovation and consider adapting curricula to these new business practices.
CASE STUDY 4: The future of knowledge work

This case study on knowledge workers is based on a set of surveys that took place from 2014 to 2018 with over 300 professionals. These professionals were contacted through LinkedIn based on their experience in innovation. In addition, a control group from INSEAD alumni with over 50 professionals was put in place.

Most functions performed by knowledge workers are or will be impacted by digital technologies and streams of Big Data. This is specifically the case with SM. The risk of losing precious time instead of being more productive through these new technologies obliges the individual knowledge worker to learn to assess which networks and functionalities deliver most value within the innovation process. At the same time, the benefits of tapping into the ‘wisdom of the crowd’ are likely to outweigh the risks, as the SMashIng survey results demonstrate. Filtering the right information is key, in order to avoid both loss of time and ‘information overload’. The diagram below provides an indication of the range of SM platforms available to knowledge workers for both personal and professional use.

Figure 13: SM platforms across digital work and digital private identities

The qualitative interviews revealed that the SM profile of knowledge workers has become part of their digital work identity. The digital identities of knowledge workers are blurring as their digital work identity is becoming intertwined with their digital personal identity when using digital tools such as SM. The interviews indicated that most knowledge workers initially intended to keep their private communications and SM activities separate from their professional activities. For instance, Facebook was to remain for family and friends whereas LinkedIn was to be reserved for professional use.

However, many knowledge workers talked about how the boundaries between personal and professional use are blurring and these perceptions were further confirmed by the 2017 survey which inquired about personal versus professional communications.

Figure 14: The boundaries between my personal and professional digital communications are increasingly blurred/unclear

Source: SMashing survey, 2017

Another key trend observed during the data collection period from 2014 to 2018 is that knowledge workers are spending more time on SM, especially for professional use, which once again suggests that knowledge workers have integrated digital networks into their work routine.
Figure 15: Time spent on social media for personal use: 2014 compared to 2017

Source: SMashing surveys, 2014-2017

Figure 16: Time spent on social media for professional use: 2014 compared to 2017

Source: SMashing surveys, 2014-2017
The figure above also confirms this trend, with knowledge workers’ estimates of the professional use of SM by their colleagues increasing significantly over the period 2014 to 2017.

The blurring of digital identities has impacts for policy makers, as SM is a key mechanism for fostering innovation within enterprises. At present the evaluation of digital skill sets and digital literacy does not include SM as an innovation tool. Education policy makers should be aware of SM’s role in fostering innovation and consequently adapt curriculums to these new business practices.

The SMashing surveys demonstrate that all types of firms can benefit greatly from the innovation potential of SM. It flows from this that firms need to implement tools to help the knowledge worker choose the right social networks and the most relevant information flows. In order to derive value from SM, the enterprise needs to formulate and execute on its digital strategy which should comprise an SM strategy as well as data processing know-how and associated implementation skills. However, in the 2017 SMashing survey, over 50% of respondents reported that their companies either did
not have an SM strategy or that they were not aware of any SM strategy. This is despite the fact that the respondents are increasingly using these networks in their professional work.

**Figure 18: Does your company have a social media strategy?**

In summary, enterprises need to ensure they have a digital strategy in place that covers SM and data processing whilst ensuring they provide their employees with the right tools to identify the most relevant data. SM can in fact be considered as yet another big data stream to be processed by an enterprise. And while companies are becoming increasingly experienced in leveraging the 4Vs of big data (volume, velocity, variety and veracity\(^\text{12}\)), the issue of data veracity is especially key. Knowledge workers, according to our qualitative feedback, can benefit greatly from social media. However, data veracity needs to be continuously assessed by the knowledge worker as part of this process.

Appendix

Related research publications


Planned publications

Bacchetta Beckh, A.V., and Badillo, P.Y. *Does Social Media foster innovation - a Bachelardian perspective to Metcalfe's law.* Planned for publication within Open Publications.


SMashIng Survey

You are receiving this survey since we are looking forward to learning from your experience. This survey is part of a research project about the use of Social Media for innovation (carried out by the Medi@Lab of the University of Geneva, Luxembourg Institute of Science and Technology, and University of Technology Sydney). Please give us 10-15 minutes of your time to respond. We seek to understand the perspective of your organization, so please answer from your organization's point of view. All the information received through the questionnaire is treated confidentially and anonymously.

The survey is divided into 5 sections:
I) Introduction
II) Use of Social Media for innovation
III) Innovation Impact
IV) Challenges
V) Background Information

SECTION I: INTRODUCTION

I.1.a Are you directly involved in your organization's innovation activities?
☐ Yes
☐ No

I.1.b What is your job title?
☐ Social Media Manager
☐ Innovation Manager
☐ Open Innovation Manager
☐ Innovation Ecosystem Manager
☐ R+D Manager
☐ Product Manager
☐ Marketing Manager
☐ Digital Strategy Manager
☐ Chief Innovation Officer
☐ Chief Digital Officer
☐ Chief Technology Officer
☐ Chief Information Officer
☐ Chief Strategy Officer
☐ Chief Executive Officer
☐ Chief Operating Officer
☐ Company Owner
☐ Director level role that involves Innovation
☐ My job does not relate to innovation
☐ Other, please specify ____________________
1. In which country is your organization based? (Please click through the list to choose the country.)

- Afghanistan
- Albania
- Algeria
- Andorra
- Angola
- Antigua and Barbuda
- Argentina
- Armenia
- Australia
- Austria
- Azerbaijan
- Bahamas
- Bahrain
- Bangladesh
- Barbados
- Belarus
- Belgium
- Belize
- Benin
- Bhutan
- Bolivia
- Bosnia and Herzegovina
- Botswana
- Brazil
- Brunei Darussalam
- Bulgaria
- Burkina Faso
- Burundi
- Cambodia
- Cameroon
- Canada
- Cape Verde
- Central African Republic
- Chad
- Chile
- China
- Colombia
- Comoros
- Congo, Republic of the
- Costa Rica
- Côte d'Ivoire
- Croatia
- Cuba
- Cyprus
- Czech Republic
- Democratic People's Republic of Korea
- Democratic Republic of the Congo
- Denmark
- Djibouti
- Dominica
- Dominican Republic
- Ecuador
- Egypt
- El Salvador
- Equatorial Guinea
- Eritrea
- Estonia
- Ethiopia
- Fiji
- Finland
- France
- Gabon
- Gambia
- Georgia
- Ghana
- Greece
- Grenada
- Guatemala
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
- Honduras
- Hong Kong (S.A.R.)
- Hungary
- Iceland
- India
- Indonesia
- Iran, Islamic Republic of
- Iraq
- Ireland
- Israel
- Italy
- Jamaica
- Japan
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Kuwait
- Kyrgyzstan
- Lao People's Democratic Republic
- Latvia
- Lebanon
- Lesotho
- Liberia
- Libyan Arab Jamahiriya
- Liechtenstein
- Lithuania
- Luxembourg
- Madagascar
- Malawi
- Malaysia
- Maldives
- Mali
- Malta
- Marshall Islands
- Mauritania
- Mauritius
- Mexico
- Micronesia, Federated States of
- Monaco
- Mongolia
- Montenegro
- Morocco
- Mozambique
- Myanmar
- Namibia
- Nauru
- Nepal
- Netherlands
- New Zealand
- Nicaragua
- Niger
- Nigeria
- Norway
- Oman
- Pakistan
- Palau
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Philippines
- Poland
- Portugal
- Qatar
- Republic of Korea
- Republic of Moldova
- Romania
- Russian Federation
- Rwanda
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Samoa
- San Marino
- Sao Tome and Principe
- Saudi Arabia
- Senegal
- Serbia
- Seychelles
- Sierra Leone
- Singapore
- Slovakia
- Slovenia
- Solomon Islands
- Somalia
- South Africa
- Spain
- Sri Lanka
- Sudan
- Suriname
- Swaziland
- Sweden
- Switzerland
- Syrian Arab Republic
- Tajikistan
- Thailand
- The former Yugoslav Republic of Macedonia
- Timor-Leste
- Togo
- Tonga
- Trinidad and Tobago
- Tunisia
- Turkey
- Turkmenistan
- Tuvalu
- Uganda
- Ukraine
- United Arab Emirates
- United Kingdom of Great Britain and Northern Ireland
- United Republic of Tanzania
- United States of America
- Uruguay
- Uzbekistan
- Vanuatu
- Venezuela, Bolivarian Republic of
- Viet Nam
- Yemen
- Zambia
- Zimbabwe
I.2. What is the name of your organization?

☐ please enter name below ____________________

☐ I rather answer anonymously

I.3. In what kind of organization are you based at? Unless otherwise specified, please answer all questions from the perspective of your organization.

<table>
<thead>
<tr>
<th>Option</th>
<th>My organization’s headquarters</th>
<th>A local office of my organization</th>
<th>My organization’s only location</th>
</tr>
</thead>
<tbody>
<tr>
<td>My job is based at - (if necessary please explain below) (1)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
SECTION II: USE OF SOCIAL MEDIA FOR INNOVATION

Organizations may use Social Media platforms internally or externally. For this study, we classify Social Media as follows: a) Public Social Media (such as Facebook, Twitter, LinkedIn, YouTube etc.) b) Company built Social Media (such as IBM Beehive, My Starbucks Idea, Amex Open Forum, etc.) c) Company licensed Social Media (such as IBM Connections, Microsoft Yammer/Sharepoint, Jive etc.) d) Innovation Intermediary Social Media (e.g. Innocentive, NineSigma, OneBillionMinds etc.)

II.1. My organization uses Social Media to implement a new or significantly improved service, product, process, or organizational method

- Not at all (5)
- Sometimes (8)
- Often (15)
- Almost always (16)

This section will focus on Social Media and Innovation. For this study we define Innovation as the implementation of a new or significantly improved service, product, process, or organizational method. Please keep this definition in mind when answering the next questions.

II.2. Which departments in your organization use Social Media for fostering Innovation? Tick all that apply - multiple ticks possible

<table>
<thead>
<tr>
<th>Department</th>
<th>Public Social Media (e.g. Facebook, LinkedIn etc.)</th>
<th>Company built Social Media (e.g. IBM Beehive, My Starbucks Idea, Amex Open Forum etc.)</th>
<th>Company licensed Social Media (e.g. IBM Connections, Microsoft Yammer/Sharepoint, Jive etc.)</th>
<th>Innovation Intermediary Social Media (e.g. Innocentive, NineSigma, OneBillionMinds etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Sales</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Communication</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Production</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Human Resources</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Procurement</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Finance</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Other, please specify</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
II.3. For what purpose does your organization use different Social Media to foster innovation? Tick all that apply.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Public Social Media (e.g. Facebook, LinkedIn etc.)</th>
<th>Company built Social Media (e.g IBM Beehive, My Starbucks Idea, Amex Open Forum etc.)</th>
<th>Company licensed Social Media (e.g. IBM Connections, Microsoft Yammer/Sharepoint, Jive etc.)</th>
<th>Innovation Intermediary Social Media (e.g. Innocentive, NineSigma, One Billion Minds etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct one-to-one exchanges with existing and potential clients</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Communication (e.g. blogging, microblogging, forums…)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Information broadcasting (e.g. news broadcasting, online newspapers, photo sharing, video sharing, live casting…)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Trendspotting (forecasting and analysing trends, e.g. Google trends…)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Collaboration (e.g. wikis, social bookmarking, opinion sites…)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Stimulating participation (e.g. online contests and competition, crowdsourcing…)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
II.4. Which of the following innovation types are developed with the support of Social Media in your organization? Tick all that apply.

<table>
<thead>
<tr>
<th>Innovation Type</th>
<th>Public Social Media (e.g. Facebook, LinkedIn etc.)</th>
<th>Company built Social Media (e.g. IBM Beehive, My Starbucks Idea, Amex Open Forum etc.)</th>
<th>Company licensed Social Media (e.g. IBM Connections, Microsoft Yammer/Sharepoint, Jive etc.)</th>
<th>Innovation Intermediary Social Media (e.g. Innocentive, NineSigma, OneBillionMinds etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product or service innovation</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Organizational or process innovation</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Marketing, design &amp; advertising innovation</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Business model innovation</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Logistics, delivery or sales channel innovation</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
</tbody>
</table>

II.5. In your organization Social Media contributes to innovation in the following phases (tick all that apply):

<table>
<thead>
<tr>
<th>Phase</th>
<th>Public Social Media (e.g. Facebook, LinkedIn etc.)</th>
<th>Company built Social Media (e.g. IBM Beehive, My Starbucks Idea, Amex Open Forum etc.)</th>
<th>Company licensed Social Media (e.g. IBM Connections, Microsoft Yammer/Sharepoint, Jive etc.)</th>
<th>Innovation Intermediary Social Media (e.g. Innocentive, NineSigma, OneBillionMinds etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamental R &amp; D</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Idea Generation/Ideation</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Idea Screening</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Concept Development</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Technical Implementation</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Beta Testing and Market Testing</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Market and Business Analysis</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Design of products/services</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Commercialisation and Improvement</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
</tbody>
</table>
II.6. Do the following supporting activities facilitate the use of Social Media for innovation in your organization? Tick all that apply:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Public Social Media (e.g. Facebook, LinkedIn etc.)</th>
<th>Company built Social Media (e.g. IBM Beehive, My Starbucks Idea, Amex Open Forum etc.)</th>
<th>Company licensed Social Media (e.g. IBM Connections, Microsoft Yammer/Sharepoint, Jive etc.)</th>
<th>Innovation Intermediary Social Media (e.g. Innocentive, NineSigma, OneBillionMinds etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal training on the use of the tools</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Use of Social Media by senior management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Clear responsibilities for content in Social Media</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Internal rules and guidelines</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Internal IT support for usage</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Corporate culture</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

II.7. The following actors linked to my organization’s Social Media Network are very important for providing inputs for innovation as well as distributing and sharing knowledge.

<table>
<thead>
<tr>
<th>Actor</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My organization or group</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Suppliers of all types (ranging from equipment, materials, components, to software etc.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Clients or customers from the private sector</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Clients or customers from the public sector</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Opinion leaders, lead users</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Competitors</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Partners or other enterprises in your industry</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Consultants and commercial labs</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Academics or scientists</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Please select 'strongly agree’ to prove you are paying attention</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
II.8. When using the following types of Social Media, I find their access to be (please express your personal perspective)

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Very open</th>
<th>Open</th>
<th>Average between open and closed</th>
<th>Closed</th>
<th>Very closed</th>
<th>I do not know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Social Media (e.g. Facebook, LinkedIn etc.)</td>
<td></td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Company built Social Media (e.g. IBM Beehive, My Starbucks Idea, Amex Open Forum etc.)</td>
<td></td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Company licensed Social Media (e.g. IBM Connections, Microsoft Yammer/Sharepoint, Jive etc.)</td>
<td></td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Innovation Intermediary Social Media (e.g. Innocentive, NineSigma, OneBillionMinds etc.)</td>
<td></td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

II.9. When using the following types of Social Media, my level of presenting myself and self disclosure is (please express your personal perspective)

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Very low</th>
<th>Low</th>
<th>Average between low and high</th>
<th>High</th>
<th>Very high</th>
<th>I do not know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Social Media (e.g. Facebook, LinkedIn etc.)</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Company built Social Media (e.g. IBM Beehive, My Starbucks Idea, Amex Open Forum etc.)</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Company licensed Social Media (e.g. IBM Connections, Microsoft Yammer/Sharepoint, Jive etc.)</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Innovation Intermediary Social Media (e.g. Innocentive, NineSigma, OneBillionMinds etc.)</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>
II.10. When using the following types of Social Media, I find their ability to create new combinations of ideas and knowledge

<table>
<thead>
<tr>
<th>Type of Social Media</th>
<th>Very Low</th>
<th>Low</th>
<th>Average between low and high</th>
<th>High</th>
<th>Very high</th>
<th>I do not know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Social Media (e.g. Facebook, LinkedIn etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company built Social Media (e.g IBM Beehive, My Starbucks Idea, Amex Open Forum etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company licensed Social Media (e.g. IBM Connections, Microsoft Yammer/Sharepoint, Jive etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation Intermediary Social Media (e.g. Innocentive, NineSigma, OneBillionMinds etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SECTION III: INNOVATION IMPACT AND BENEFITS OF SOCIAL MEDIA

#### III.1 What innovation outcomes does your organization obtain or has obtained from using Social Media for innovation? Tick all that apply:

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Very often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in the number of new ideas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase of idea flows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction of new business lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in the number of projects in the innovation pipeline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase the product or service range</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faster advancement in on-going innovation projects i.e. projects moving from one stage to the next</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch from product-oriented business model to service-oriented business model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discovery of new technologies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other, please specify</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### III.2 What economic benefits does your organization obtain or has obtained from using Social Media for innovation? Tick all that apply.

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Very often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry to new market(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased market share</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost reduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased profit margins</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher revenues from new services/products</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased efficiency/productivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher profits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other, please specify</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### III.3 My organization obtains or has obtained the following communications benefits from using Social Media for innovation?

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved internal communications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved external communications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved human relationships inside the organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved human relationships with other actors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved diffusion of information and knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

September 2018
SECTION IV: CHALLENGES FOR THE USE OF SOCIAL MEDIA

Please answer the following questions concerning the barriers for the use of social media for innovation. For this study, we classify various barriers and issues as follows:

1) IT/Security field
2) Organizational
3) Behavioural/Cultural
4) Technical
5) Intellectual Property Rights and Privacy

IV.1. Please assess the importance of the following barriers concerning the use of Social Media in your organization within the Information Technology/Security field? Tick all that apply

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible introduction of viruses and malware to the corporate IT system</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Possible exposure to a fraudulent or hijacked corporate presence</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Fear for information leaks</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

IV.2. Please assess the importance of the following barriers for the use of Social Media from an organizational perspective? Tick all that apply

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reputation concerns</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Misalignment of internal policies (e.g. IT security and Social Media usage)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Lack of recognition concerning inputs provided by Social Media</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Lack of perceived added value from use of Social Media</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
IV.3. How important are the following barriers for the use of Social Media in your organization from a behavioural / cultural perspective? Tick all that apply

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers do not actively promote use of Social Media</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Lack of training for the use of Social Media</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Social Media is perceived as time consuming</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Social Media does not fit with our company culture</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Social Media does not fit with the generational profile of our management</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Social Media feared to be out of control in crisis situation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

IV.4. How important are the following barriers for the use of Social Media in your organization from a technical perspective? Tick all that apply

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulties in identifying the right Social Media tools</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Difficult to identify and extract relevant information</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>No value added expected from adding one extra software /tool</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

IV.5. How important are the following barriers for the use of Social Media in your organization from an Intellectual Property Rights and Privacy perspective? Tick all that apply

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidentiality and privacy concerns</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Information on R&amp;D and innovation too sensitive to be shared</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Fear of imitation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q27 Please describe any other barriers that we have not mentioned, if necessary
**SECTION V: BACKGROUND INFORMATION**

**V.1. Please choose the primary sector of your organization. Tick the most appropriate answer.**
- Manufacturing
- Electricity, gas, steam and air conditioning supply
- Water supply; sewerage, waste management and remediation activities
- Construction
- Retail and distribution
- Luxury goods (manufacturing and/or sale)
- Wholesale and retail trade; repair of motor vehicles and motorcycles
- Transportation and storage
- Accommodation and food service activities
- Information and communication
- Financial and insurance activities
- Real Estate activities
- Professional, scientific and technical activities
- Other, please specify ____________________

**V.2. Please describe the culture of your organization. My organization has**

<table>
<thead>
<tr>
<th>Culture Aspect</th>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a long-term view</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>ability to identify and even anticipate market trends</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>willingness and ability to collect, process, and assimilate technological and economic information</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>taste for and mastery of risk</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>involvement of the whole of the firm in the process of change</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>investment in human resources</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

**V.3. For organizational goals to be met, management in our organization**

<table>
<thead>
<tr>
<th>Management Style</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>relies heavily on detailed rules, instructions, monitoring and threats to gain employee compliance</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>relies heavily on the workers motivation and wellbeing to achieve objectives with participatory leadership style</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>increases employee loyalty by providing job stability with strong focus on well-being</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
V.4. In my organization

<table>
<thead>
<tr>
<th>V.4</th>
<th>In my organization</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>V.4.1</td>
<td>Diversity overall (educational, ethnic, gender) is a key consideration</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V.4.2</td>
<td>Top Management reflects diversity</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V.4.3</td>
<td>Gender diversity specifically is a key consideration</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V.4.4</td>
<td>Top Management reflects gender diversity</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

V.5. My organization has precise guidelines concerning the use of social media.

- Strongly disagree
- Disagree
- I do not know
- Agree
- Strongly Agree

Q33 V.6.a. Social Media creates great value for my organization

- Strongly disagree
- Disagree
- I do not know
- Agree
- Strongly Agree

Q34 V.6.b. Information and Communication Technologies create great value for my organization

- Strongly disagree
- Disagree
- I do not know
- Agree
- Strongly Agree

V.7. Are the majority of your clients

- Other enterprises
- Private consumers
V.8 What is the age of your organization?
- Under 5 years
- 5 to 9 years
- 10 to 14 years
- 15 to 19 years
- 20 to 24 years
- 25 to 29 years
- 30 to 34 years
- 35 to 39 years
- 40 to 44 years
- 45 to 49 years
- 50 to 54 years
- 55 to 59 years
- 60 to 64 years
- 65 to 69 years
- 70 to 74 years
- 75 to 79 years
- 80 to 84 years
- 85 to 89 years
- 90 years or over

V.9.a. Please give us the currency in which your company reports its revenues?
- US $
- Swiss Francs
- Euros
- Swedish Krona
- Danish Krone
- UK Pound Sterling
- Australian Dollar

V.9.b. Other currency - please mention below

V.10 What was your organization's total revenue in thousands
- in 2014 ____________________
- in 2015 ____________________

V.11 How many full-time employees did your organization have?
- in 2014 ____________________
- in 2015 ____________________

Thank you for your valuable time and information. For more information about the project and any questions on the survey please contact: medialab@unige.ch and SMashing@list.lu

For any additional comments please use the text box below:
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