Universidad de Huelva

Departamento de Economía Financiera, Contabilidad y Dirección de Operaciones

Corporate social media as a tool for voluntary reporting, transparency and stakeholder's engagement in Western European local governments

Memoria para optar al grado de doctora
presentada por:

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Fecha de lectura: 27 de octubre de 2014

Bajo la dirección del doctor:

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Huelva, 2014

PROGRAMA DE DOCTORADO

"Gestión y Economía de las PYMES"

Ph.D. DISSERTATION
TESIS DOCTORAL

CORPORATE SOCIAL MEDIA AS A TOOL FOR VOLUNTARY REPORTING, TRANSPARENCY AND STAKEHOLDERS' ENGAGEMENT IN WESTERN EUROPEAN LOCAL GOVERNMENTS

LOS MEDIOS DE COMUNICACIÓN SOCIAL CORPORATIVOS COMO HERRAMIENTA PARA LA REVELACIÓN DE INFORMACIÓN VOLUNTARIA, LA TRANSPARENCIA Y EL COMPROMISO DE LOS STAKEHOLDERS EN LOS GOBIERNOS LOCALES DE EUROPA OCCIDENTAL

Memoria que presenta **Melinda Ratkai** para aspirar al Grado de Doctora con mención de "Doctor Internacional"

Thesis submitted for the degree of Doctor of Philosophy and the "International Doctor" mention

Director: Dr. Enrique Bonsón Ponte

2014

Agradecimientos

En primer lugar, al director de esta Tesis Doctoral, **Profesor Dr. Enrique Bonsón Ponte**. La culminación de este trabajo no habría sido posible sin su ayuda, apoyo y compresión. Le agradezco especialmente la confianza que ha depositado en mí durante la realización de este trabajo. Es un verdadero privilegio haber contado con su dirección y haber podido aprender cada día a su lado.

Al Profesor **Dr. Tomás Escobar** por sus valiosas aportaciones y por su ayuda.

A la Profesora **Dr. Sonia Royo** de la Universidad de Zaragoza por ser una fantástica académica y por su aportación valiosa.

Al Profesor **Dr. Francisco Carreira** del Politécnico del Setúbal (Portugal) por ser el supervisor durante la estancia de investigación y por su aportación.

A todos, muchas gracias.

UNIVERSITY OF HUELVA - BUSINESS FACULTY
Doctor of Philosophy

ABSTRACT

CORPORATE SOCIAL MEDIA AS A TOOL FOR VOLUNTARY REPORTING, TRANSPARENCY AND STAKEHOLDERS' ENGAGEMENT IN WESTERN EUROPEAN LOCAL GOVERNMENTS

By Melinda Ratkai

This thesis contributes new and unique evidence to the debates surrounding business, management and communication changes and paradigmatic shifts in Western Europe by means of social media (SM) by seeking the answer to *how the Facebook platform is actually being used by stakeholders and Western European local governments, and how this usage can be measured and explained*. Through the use of existing literature and prior studies this doctoral dissertation first identifies a gap in the knowledge of SM usage (caused by a recent paradigmatic shift from analogue to the digital world). As the next step, it identifies inter-relations of relevant factors towards a continuance use intention or perpetuation of Facebook, and establishes new metrics of corporate Facebook measurement (which may be applicable to most SM). Based on these metrics and avenues it later investigates methods of stakeholders' engagement, transparency, voluntary reporting and Facebook activity in 2012 and 2013. In so doing, it broadens the toolkit of this new research area and provides new evidence of voluntary reporting, transparency and stakeholders' engagement in 15 Western European countries. Importantly, it is the first work to examine this multidisciplinary research field from the aforementioned different perspectives. The establish of new metrics for measuring popularity, commitment, virality and engagement on corporate Facebook and the analyzes of 75 Western European municipalities for scholars contribute valuable interpretations of how social media (most particularly Facebook) may have functioned over the course of the study period and how the identified features and practices responded to the changing business and social environments. Our understanding benefited significantly from these 4 basically independent, but still coherent researches examining: continued use intention of Facebook; establishing metrics for measurement; and combining the content and media types of the posts and the different levels of engagement metrics with stakeholders and local governments behaviors, expectations and changed needs. Patterns were likely to be observed across the examined population detecting differences among different public administration styles. The conclusions from this original project may be placed within the context of the wider social sciences debates. The need for new, relevant and more diverse studies is emphasized to advance the interpretations of current economic and social changes of Western Europe by expanding research to multiple countries and integrating research findings.

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RESUMEN y CONCLUSIONES

en Español

El presente trabajo se considera un nuevo paso en la línea de investigación sobre las nuevas tecnologías en contabilidad digital cuyo investigador principal es el doctor Enrique Bonsón Ponte, Catedrático del Departamento de Economía Financiera, Contabilidad y Dirección de Operaciones. Este grupo tiene sus orígenes en el año 1995 en la convocatoria del Plan Andaluz de Investigación, en la que se obtiene reconocimiento con el código SEJ 290. Esta tesis doctoral pertenece al proyecto un análisis mediante microsimulación de las causas y consecuencias de la divulgación de información corporativa digital: hacia la optimización de las políticas públicas.

Introducción

El objetivo del presente trabajo es doble. El primer objetivo es ampliar el conjunto de herramientas de esta área de investigación especial mediante el establecimiento y la aplicación de nuevos métodos de medición del Facebook corporativo, y el segundo objetivo es identificar las prácticas y patrones de uso de Facebook mediante el estudio de dos perspectivas principales: los *stakeholders*[1] y de los municipios.

Aunque la investigación está todavía en una fase en curso, y es posible que se amplíe en el futuro, este trabajo aun así representa grandes mejoras y contribuciones al campo examinado.

Antecedentes del problema

Internet tiene muchas más páginas que la población mundial. Esta situación es el resultado de la pasada evolución de la tecnología de la información. Barnatt (2001) discutió acerca de la primera revolución digital que comenzó en 1980. En primer lugar fue acerca del almacenamiento de dígitos binarios o bits electrónicos (Barnatt, 2001; Negroponte, 1995). En este periodo los medios de comunicación, productos y servicios fueron cada vez más hacia un formato electrónico. El siguiente paso que es la segunda revolución digital se está produciendo hoy en día (Barnatt, 2001). Esto se refiere al traslado cotidiano de contenido electrónico y digital al mundo perceptible real. Esto es notoriamente catalizado por la llegada y la aceptación masiva de una gama cada vez mayor de medios digitales y dispositivos de comunicaciones en el mercado de consumo. La segunda revolución digital es en consecuencia un reflejo del hecho de que el

[1] *Siguiendo la práctica internacional sobre la terminología "stakeholders" a lo largo de este documento se utilizará la expresión en Inglés, a pesar de su traducción en español es "las partes interesadas".*

hardware y la tecnología de la información (TI) se están volviendo de bajo costo y tienen lugar en los hogares, lugares de trabajo e incluso en los bolsillos (Barnatt, 2001). Obviamente, ni al público ni a los sectores privados se les permitió quedarse por fuera de estas revoluciones de las TI.

Según Gandía (2003) en la última década hemos sido testigos de un cambio significativo en los modelos de negocio influenciado por la tecnología. Este cambio hacia una sociedad basada en la tecnología ha creado nuevas oportunidades (y amenazas) para las empresas (Faber, 2007) y dio lugar a cambios fundamentales en la gestión y comunicación empresarial. Estos cambios en el entorno empresarial han llevado a los académicos a prestar especial atención a los cambios paradigmáticos que suceden en paralelo en el mundo de los negocios. Estos cambios pueden ser interpretados como: un cambio del sistema analógico al mundo digital y como consecuencia directa de una divulgación basada en papel (sin conexión) a una basada en la web (en línea), o en otras palabras: del modelo de reporte tradicional a las nuevas formas para la presentación de informes (divulgación voluntaria - no incluida para el contenido financiero -), y, finalmente, de "informar" (radiodifusión) para "comunicar" (participación), que abrió el camino para relacionarse, colaborar y compartir contenido de forma sencilla y rápida, básicamente con cualquiera.

Estos cambios paradigmáticos (causados principalmente por las revoluciones digitales) fueron los causantes y los partidarios del giro de los sitios de redes sociales / red social (SNS)[2] o

[2] *Cabe destacar que la red social y las redes sociales no son 100% términos similares, aunque en la mayoría de los casos se utilizan indistintamente. La creación de redes implica una relación a menudo entre desconocidos, mientras que el fenómeno de la red significa una relación ya estable (Boyd y Ellison, 2008). En este trabajo se usan estos términos indistintamente como*

de medios sociales (SM)[3]. Las anécdotas evidencian que las empresas y los gobiernos locales utilizan los medios sociales para fines de comunicación con los *stakeholders*. El uso de canales, como Facebook, es inevitable para los sectores públicos y privados, o sin fines de lucro. Es preciso señalar que en la actual situación económica y social (lo que implica una economía desarrollada) es casi obligatorio estar *en línea*. Day (1997) sugiere que la presencia en la web es más importante que el servicio, el acceso o el contenido. Dado que hoy en día todos los sectores están presentes en SM, los académicos deben mantenerse al día con esta nueva era de las estrategias de negocio y comunicación de marketing. Como reconoció Stuart (2009), las SNS son herramientas de gran potencial, aunque su impacto y valor no son fáciles de medir.

De hecho, el examen de los SNS / SM ha sido oportuno con el lanzamiento de la Web 2.0. En particular, la " generación del milenio " (Winograd & Hais, 2008) ha sido el principal segmento con servicios como YouTube, los blogs, y los clones de Wikipedia y de varios sitios de redes sociales. Pequeñas diferencias se pueden detectar entre los sitios, pero tienen en común el formar comunidades en línea y el compartir contenido. Facebook.com es lo SM más popular del mundo de acuerdo a la clasificación trimestral de Alexa (Alexa.com, 2014). A partir de diciembre de 2013 Facebook alcanzó más de 757 millones de usuarios activos al día y 1230 millones de usuarios activos mensuales reportados por la sala de prensa de Facebook (2014). El cincuenta por ciento de los usuarios activos inicia sesión en Facebook en cualquier día y la gente pasa más de 700 mil millones de minutos al mes en Facebook (Facebook, March 2011). El elevado número de usuarios puede convertir páginas como Facebook en una herramienta útil. El registro es gratuito y

sinónimos ya que no hay diferencias significativas entre ellos desde el punto de vista de las empresas / organizaciones con presencia en línea.

[3] *A lo largo de este documento se utilizarán las abreviaturas en inglés.*

también lo son los servicios. Según Caers *et al* (2013) el Facebook puede convertirse en un instrumento adicional para comunicarse con los *stakeholders*. O como dijo Cook (2008), atraer a los clientes con sus productos, dándoles un foro de intercambio de experiencias personales. En la creciente literatura sobre SNS varios artículos han sido publicados centrándose en Facebook en particular (Al-Debei *et al.*, 2013; Caers *et al.*, 2013; Dekay, 2012; Ellison *et al*, 2007; Gummerus *et al.*, 2012; Haigh *et al.*, 2013; Hughes *et al.*, 2012; Junco, 2012; Lever, 2012; Lewis *et al*., 2008; Mayer & Puller 2008; Mlaiki *et al.*, 2011; Mulvihill, 2011; Shi *et al.*, 2010; Waters *et al.*, 2009; Yang & Lai, 2011). Dwyer (2007) encontró que la gente tiene una confianza mayor en Facebook que por ejemplo en MySpace. Así que Facebook puede ser una herramienta útil para la construcción de múltiples vínculos que pueden reducir los costos (Shu & Chuang, 2011; Hansen *et al*., 2005; Levin & Cross, 2004).

Planteamiento del problema y la pregunta de investigación principal

El advenimiento de la Internet no sólo reorganizó la forma en que las empresas y los gobiernos recopilan información, sino también redefinió las expectativas de los *stakeholders*. Una investigación sobre los gobiernos mostró que las aplicaciones Web 2.0 están creando nuevas formas de innovación y un mejoramiento de la transparencia (Meijer & Thaens, 2010) y en algún sentido se reconocen a sus *stakeholders* como socios y co-creadores, no sólo como consumidores (Chua *et al*, 2012). Los antecedentes están en el sector público (Bertot *et al*, 2010; Bonsón *et al*., 2012; Rodriguez-Domínguez *et al*., 2011; Towner & Dulio, 2012), el sector privado (Bollen *et al*, 2011), sector financiero (Bonsón & Flores, 2011; Sánchez-Franco & Martín-Velicia, 2011) o entre las compañías Fortune 500 (Esrock & Leichty, 1998; Pettigrew & Reber, 2010).

Un alto número de estudios se centran principalmente en los clientes. El uso de SM para fines de marketing parece estar bien estudiado(Breslauer & Smith, 2009; Christodoulides, 2009; Dekay, 2012; Kalapesi *et al*., 2010; Michaelidou *et al.*, 2011; Mislove *et al*., 2007; Ralphs, 2011; Towner & Dulio, 2012; Yi, 1990): cómo vender o mantener en línea la interacción comercial (Kalapesi *et al*., 2010; Mislove *et al*., 2007), la marca (Christodoulides, 2009), aumentar el tráfico a la página web oficial de la organización o la retroalimentación de los clientes y el desarrollo de la interacción con ellos (Breslauer & Smith, 2009). Es de destacar que si bien la actividad de marketing y la publicidad tiene un papel destacado en los trabajos de investigación, existe una brecha en el conocimiento sobre la medición de la interacción real con los *stakeholders* y la revelación voluntaria en las SNS. Esta carencia proporciona el impulso para este estudio, para abordar esta brecha y analizar otros posibles potenciales.

La bien conocida desventaja en el conocimiento y la tríada funcional de ordenadores de Fogg (1998) puede ofrecer una idea básica de la investigación. Su propuesta de tríada funcional de ordenadores contiene lo siguiente: el ordenador es una herramienta para aumentar las capacidades, un medio para proveer experiencias y un actor social para crear relaciones. Según mi opinión, esta triada hace que el SM sea un posible y efectivo canal de comunicación, información y participación para las empresas e instituciones, ya sea en el sector público o privado.

En esta tesis la plataforma examinada, Facebook, puede ser interpretada como una red de *stakeholders*. Rowley (1997) afirma en su artículo que el análisis de redes sociales puede ofrecer una buena perspectiva para una teoría avanzada de los *stakeholders*, donde el factor principal es la interdependencia de los actores y cómo sus posiciones pueden afectar su comportamiento y

cómo el ambiente puede modificar el comportamiento de las organizaciones (Wasserman & Galaskiewicz, 1994). Aunque la posición de las organizaciones en su red es un factor determinante de su comportamiento (Rowley, 1997: 892), también el comportamiento de los *stakeholder*s tiene un impacto en la empresa / municipio / organización (Rowley, 1997).

Winn (2001) sugiere que las categorías típicas de los *stakeholders* (así como los conceptos generalmente aceptados de los estudios de gerencia) no necesariamente son válidas con cualquier construcción social. Así que el nombramiento y la agrupación de los *stakeholders* pueden ser diferentes según la cultura y la historia. Afirmó que cualquier definición aplicada a los grupos de *stakeholders* es temporal y específica a una situación o asunto. Por lo tanto, en este estudio un grupo ampliamente interpretado de *stakeholders* y / o ciudadanos se utilizan como sinónimos. Hay que tener en cuenta que en el presente trabajo estas expresiones se utilizan indistintamente. En este estudio y bajo estas citadas expresiones se consideran usuarios de Facebook a aquellos que interactúan con los canales oficiales examinados en algunos aspectos (por ejemplo, que son seguidores de la página o interactúan expresando su gusto, comentando o compartiendo). El segundo capítulo constituye la única excepción, donde el término *stakeholders* se refiere particularmente a las personas encuestadas.

Las contribuciones de este trabajo son a la vez prácticas y teóricas. La metodología propuesta y aplicada va a permitir ampliar el conjunto de herramientas de investigación sobre los *stakeholders.* La principal pregunta de investigación es: *¿Cómo la plataforma de Facebook puede ser realmente utilizada por los stakeholders y los gobiernos locales de Europa Occidental y cómo este uso se puede medir y explicar?*

Además de este pregunta principal de investigación, cada capítulo plantea sus propias preguntas / proposiciones. De este modo, en el capítulo 2 se examinan las interrelaciones de los factores que pueden influir en el uso continuado de Facebook. Las preguntas son las siguientes: ¿Qué factores influyen en la intención de uso continuado en relación a Facebook? ¿Las actitudes hacia el uso de Facebook o la satisfacción juegan un papel mediador en el uso continuado de Facebook?

En el capítulo 3 con el fin de establecer y presentar los indicadores de medición del Facebook corporativo se examinan las siguientes preguntas: ¿Cómo puede medirse la participación de los *stakeholders,* el estado de ánimo de los mismos en relación al Facebook de uso corporativo?

Después de establecer los requisitos previos de la investigación (Capítulos 2 y 3), en el Capítulo 4 (a través de una muestra de los gobiernos locales de mayor tamaño de Europa Occidental) las siguientes preguntas son exploradas en busque de relación entre la actividad y los participación de los ciudadanos: ¿Cuál es la utilización del Facebook del parte de los gobiernos locales? ¿Cuál es la participación de los ciudadanos con su gobierno local a través de este canal? ¿Qué factores influyen en los niveles de actividad de los gobiernos locales y los niveles de compromiso de los ciudadanos?

En el capítulo 5 se analiza la misma muestra de municipios prestando atención al tipo de medio utilizado y al impacto de los contenidos. Las proposiciones analizadas son: el uso de fotos provoca la participación de los ciudadanos, los mensajes relacionados con temas cotidianos en el municipio promueven mayores niveles de participación ciudadana, los niveles de compromiso de los ciudadanos son mayores en los gobiernos locales más abiertos (las que permiten a los

stakeholders publicar mensajes en el muro), el marco institucional (estilo de la administración pública) influye en la actividad de Facebook de los gobiernos locales y la participación de los ciudadanos.

Marco teórico

Esta área multidisciplinar de la investigación científica es una de las que está experimentado mayores niveles de desarrollo recientemente y puede ofrecer nuevas contribuciones para diversas áreas: sociología, economía, comunicación entre otros. Por lo tanto, este estudio toma como referencia la literatura existente sobre las ciencias sociales y económicas, y las teorías de diversos campos como la socio-política (por ejemplo, institucional, legitimidad, y las teorías de los *stakeholders*), de gestión (teorías pre-y post-consumo) y económica (por ejemplo, la teoría de la agencia) a fin de examinar los medios sociales (Facebook), la transparencia digital, la notificación voluntaria digital, e-participación, el gobierno electrónico y la divulgación con los *stakeholders* / ciudadanos. El enfoque de combinar estas teorías tiene una tradición en estudios anteriores. Estas teorías son complementarias en lugar de competitivas entre sí. Cada una de ellas va a ser explicada y detallada en los capítulos correspondientes a la fundamentación teórica de la investigación.

Diseño de la investigación

Dado que esta tesis está compuesta por artículos, cada capítulo puede ser tratado como una unidad independiente de investigación, pero, por otro lado, cada uno de ellos sigue siendo coherente. Cada uno contiene una revisión de la literatura, junto con las hipótesis o preguntas de estudio, respectivamente (a fin de investigar las interrogantes principales de las investigaciones más en profundidad y desde diferentes dimensiones), una visión general sobre la metodología

aplicada, una descripción sobre el conjunto de datos examinados, y finalmente secciones de resultados, discusiones y conclusiones. Todos estos capítulos han sido publicados o están en proceso de revisión en revistas internacionales de impacto.

La estructura de la tesis es la siguiente:

El capítulo 1 contiene la parte introductoria, la cual precisa el objetivo de esta tesis doctoral, ofreciendo los antecedentes y la exposición del problema, el marco teórico, la pregunta principal de investigación y el diseño de la misma. Los dos capítulos siguientes (incluyendo tanto los capítulos segundo y tercero) son un preámbulo a la investigación, con el fin de establecer la factibilidad de esta tesis doctoral. Los capítulos cuarto y quinto se refieren a los resultados del uso, prácticas y sus interpretaciones. Y el capítulo 6 es el capítulo de conclusiones.

El siguiente es el Capítulo 2, el cual apunta a analizar qué es necesario para perpetuar el uso de Facebook como un canal de red social involucrando teorías de pre y post consumo. Por lo tanto, este segundo capítulo intenta entender por qué muchas personas aún continúan utilizando Facebook. Este punto es crucial en el incremento de la aceptación de los usuarios. Diversos factores como confirmación, utilidad percibida, influencia social, satisfacción y actitud, fueron probados por su impacto en la intención del uso continuo respecto a Facebook. La interrelación entre los constructos antes mencionados fue evaluada mediante datos empíricos recolectados de 732 estudiantes de universidades Europeas.

El Capítulo 3 propone una serie de métricas para valorar el compromiso de los *stakeholders* (popularidad, compromiso y viralidad), así como su humor y legitimidad social en páginas de Facebook corporativas. En la literatura científica previa no se había definido ninguna métrica para Facebook (vacío identificado en el conocimiento), por ello este capítulo tiene una

alta importancia tanto teórica como práctica. En primer lugar, estos parámetros ofrecen capacidad de medición de la comunicación así como la participación en línea y en segundo lugar ayudan a entender el uso de Facebook. Tres teorías fueron consideradas en el desarrollo de estas métricas (dialógica, *stakeholders* y legitimidad). Éstas pueden ayudar tanto a usuarios, marketing, relaciones públicas, profesionales de la comunicación y gerentes a medir su popularidad y la de sus competidores, así como el compromiso, viralidad - todo lo cual refleja la participación de los *stakeholders* -; el humor de los *stakeholders* y hacer uso de análisis de contenido con el fin de medir la legitimidad social, todo ello mediante la divulgación de información responsabilidad social corporativa en Facebook (de allí la reputación online de una empresa).

El objetivo del Capítulo 4 es proporcionar una evaluación inicial del uso de Facebook por parte de municipios de los mayores municipios de cada país en Europa Occidental considerando dos aspectos: actividad del municipio y la participación de los ciudadanos. Para esta tarea fueron recolectados y analizados datos sobre 75 gobiernos locales en 15 países durante el mes de Octubre de 2012, incluyendo tanto el uso por parte del gobierno como la participación de los ciudadanos y comparando resultados entre el Norte y el Sur de Europa, a fin de entender e interpretar su impacto.

En el Capítulo 5, utilizando la misma muestra del capítulo anterior, se analiza el impacto de los medios y tipos de contenido sobre el compromiso de los *stakeholders.* Este capítulo se basa en las teorías de revelación voluntaria, agencia e iniciativas ciudadanas para la participación electrónica. En este capítulo la misma muestra de gobiernos refleja cuatro estilos diferentes de administración pública. La recolección de datos se llevó a cabo en Marzo de 2013, analizando 50 publicaciones de cada municipio. Estos datos fueron codificados en 16 tipos de contenido y 5

tipos de medios respectivamente. Las métricas en cuanto a la popularidad, compromiso, viralidad y participación también fueron recopiladas.

Finalmente, el último capítulo (Capítulo 6) es la conclusión del estudio para dar respuesta a la pregunta inicial de la investigación. A partir de la síntesis de cada uno de los capítulos individuales, identifica los resultados e implicaciones de los mismos, suministra direcciones para futuros estudios y resalta las limitaciones encontradas. El último capítulo es seguido por las referencias y apéndices.

Discusión de resultados

Hallazgos empíricos

Los hallazgos empíricos principales son específicos de cada capítulo y han sido resumidos en cada uno de ellos: factores que pueden contribuir a la intención de uso continuo de Facebook; propuesta de un conjunto de métricas para Facebook corporativo; actividad en Facebook de los municipios y participación de los *stakeholders*; impacto de los diferentes medios y tipos de contenido sobre la participación ciudadana. Esta sección sintetizará estos descubrimientos empíricos principalmente para responder a la pregunta principal de esta investigación.

En busca de una respuesta sobre cómo la plataforma de Facebook es actualmente utilizada por los *stakeholders* y los gobiernos locales de Europa Occidental, los resultados muestran una gran diversidad en la actividad de Facebook y una ausencia de patrones o relaciones entre la actividad de los municipios y el nivel de participación de los ciudadanos. Más aún, el nivel de actividad en Facebook por parte de los gobiernos locales y los niveles de participación ciudadana no están, en términos generales, relacionados de forma estadística con otros componentes examinados como las características del municipio, las métricas de Facebook o la preparación

tecnológica de la población. Por lo tanto, se deduce que la actividad en el canal es más una cuestión de actitud o decisión de parte de los gobiernos locales y no una consecuencia de las demandas de los ciudadanos o una comunicación dialógica con los mismos. Por otra parte, esta relación refuerza el modelo corroborado de post-aceptación de la continuidad de uso de los sistemas de información, en donde se encontró que la actitud es más significativa y tiene un mayor efecto en el uso continuo que la satisfacción.

Durante la medición y explicación del uso de Facebook, se halló que el contenido y tipos de medios utilizados tienen impacto en la participación de los *stakeholders*. Aun así, los resultados muestran que en este sentido la demanda y la oferta son de alguna manera controvertidos: los contenidos relacionados con marketing son preferidos por los gobiernos locales mientras que los ciudadanos se inclinan más por tópicos relacionados con la vida cotidiana.

Implicaciones teóricas

Probablemente, la contribución más importante a nivel teórico es proponer un conjunto de métricas válidas sobre la participación en Facebook con el fin de medir y explicar su uso. Las métricas propuestas son capaces de reflejar la reactividad y comunicación dialógica con los *stakeholders* así como su participación, humor y los mensajes de la compañía con el propósito de evaluar la legitimidad social por medio de la divulgación voluntaria a través del Facebook corporativo (Tabla 12).

Otro aporte importante a esta teoría (principalmente a la literatura sobre uso continuo de sistema de información) es el modelo corroborado de post-aceptación de la continuidad de uso de

los sistemas de información, el cual extiende el modelo de post-aceptación al incorporar dos factores adicionales de actitud e influencia social (Figura 4).

Otros capítulos contribuyen de forma significativa con la literatura sobre participación electrónica ciudadana y Gobierno 2.0 mediante los hallazgos explicados en los capítulos cuarto y quinto; y también a través de las figuras desarrolladas en relación al rol de SM en general (Figura 1), el rol de los medios sociales en los municipios (Figura 5) y el rol de Facebook y las comunicaciones G2C y C2G (Figura 6).

También cabe resaltar que mediante le medición de información digital divulgada voluntariamente (en consecuencia un aumento de la transparencia), el conflicto de agencia -entre gobiernos locales y ciudadanos- puede debilitarse.

Recomendaciones para futuras investigaciones

Para generar estrategias alcanzables existe la necesidad de contar con más casos de estudio e investigaciones empíricas a nivel de gobiernos locales que permitan nuevas evaluaciones de las dimensiones locales del tema. Un estudio bien diseñado puede posibilitar algunas generalizaciones de la población. Explorar lo siguiente como posibles técnicas de investigación a futuro, puede facilitar la consecución de este objetivo:

Primeramente, la identificación de diversos grupos de *stakeholders* y en segundo lugar la canalización de las complejas interrelaciones entre los mismos debe ser tomada en consideración. En tercer lugar, la revisión de otros canales de SM puede ser de interés. En este contexto, todas las métricas propuestas (Tabla 12) pueden ser adaptadas para Facebook o cualquier otro SNS como Google+ o Twitter.

Cuarto, investigaciones futuras pueden incluir países de Europa Oriental o un estudio comparativo de la Unión Europea y Suiza. Este último puede ser un camino interesante y un tema importante ya que un estudio reciente, financiado por la Unión Europea e implementado en cooperación con 25 universidades de Europa, investiga (entre otras cosas) si Suiza puede ser considera como un modelo a futuro para la Unión Europea (bEUcitizen, 2014).[4]

Quinto, en estudios futuros se necesitará un método de muestreo diferente para lograr una mejor generalización o incluso un diseño experimental. Por ejemplo, recopilar información de todos los municipios de Europa Occidental (con toda la información necesaria respecto a la agrupación de habitantes, etc.) y luego seleccionar aleatoriamente los que se utilizarán en la revisión.

Limitaciones[5]

El estudio ha ofrecido un análisis empírico retrospectivo sobre un cambio de paradigma importante cubierto por las redes sociales (con énfasis en Facebook), utilizado por los gobiernos locales y otros interesados; y se llevó a cabo en un entorno en línea a través de muestreo de los gobiernos locales de mayor tamaño de Europa Occidental. Como consecuencia directa de esta metodología, el estudio encontró una serie de limitaciones que deben tenerse en cuenta. Dado que el diseño es empírico, los resultados sólo pueden ser generalizados a la población de los gobiernos locales de mayor tamaño de Europa Occidental (en el caso del capítulo 2, a la población de estudiantes universitarios europeos que cursan la carrera de negocios). Y en

[4] *Más información sobre el proyecto bEUcitizen: http://beucitizen.eu/deliverables/*

[5] *Es de notar que al final de cada capítulo se incluyen las limitaciones inherentes al mismo. Para evitar repetir contenido, aquí solo se incluirán aquellas limitaciones relevantes o generales.*

segundo lugar es un estudio observacional, los datos recogidos no tienen inferencia y sólo pueden proporcionar evidencia de la asociación, pero no pueden mostrar la conexión causal entre los factores examinados

Conclusiones

Hay dos logros principales de este estudio (los dos objetivos principales presentados en el capítulo de introducción respectivamente): en primer lugar, que propone las primeras mediciones de participación, popularidad, compromiso y la viralidad de Facebook a la comunidad científica / académica y profesional, y en segundo lugar que mediante la adaptación de estas métricas (principal pero no exlusicamente), se ha llevado a cabo, por primera vez una investigación empírica retrospectiva en los gobiernos locales de mayor tamaño de Europa Occidental

Se encontró que la audiencia de las páginas oficiales de Facebook de los municipios de Europa Occidental es bastante alta. Sin embargo, un alto número de *fans* no necesariamente significa una audiencia comprometida. Desafortunadamente, la participación ciudadana en general se mostró baja. Por lo tanto, pareciera que el interés de parte de los ciudadanos para entablar conversaciones con el gobierno es limitado. Empero, por otra parte también se hallaron algunas estrategias útiles: por ejemplo, se detectó que el uso de fotos provoca la participación de los ciudadanos. Así pues, una buena estrategia querrá hacer uso de una proporción alta de fotos e imágenes para generar iniciativa en la participación electrónica. De la misma manera, se encontró evidencia que en aquellos casos en donde los gobiernos locales proveen mayor apertura y rango más amplio de posibilidades de interacción (permitiendo comentarios de parte de otros) los ciudadanos se muestran más activos y comprometidos. Ya que una relación causal no puede ser

inferida a partir de estos hallazgos, no se puede afirmar que los municipios más abiertos en Facebook puedan involucrar a más ciudadanos, pero se detectaron correlaciones.

Por último, los niveles de compromiso de los ciudadanos y la influencia de diversos temas (desde los relacionados con el marketing hasta aquellos vinculados con simples anuncios que afectan la vida diaria) parecen depender del estilo de la administración pública. Así, los municipios pueden querer identificar los temas más relevantes para los ciudadanos de su jurisdicción con el fin de satisfacer mejor las necesidades de los mismos.

Como conclusión de este estudio, se puede afirmar que los gobiernos locales de mayor tamaño de Europa Occidental tienden a utilizar Facebook como una respuesta a los recientes cambios paradigmáticos (a través de la divulgación digital voluntaria y, por tanto, una mayor transparencia). Sin embargo, se puede decir que todavía tienen mucho que aprender, ya que en la mayoría de los casos, las formas de uso no están en armonía con los grupos de interés / necesidades de los ciudadanos. Algunas buenas prácticas se pueden derivar de este estudio (y poner en funcionamiento) con el fin de lograr un mayor nivel de compromiso de los *stakeholders*, y por ende una comunidad local más activa y un gobierno más transparente.

CHAPTER 1

PROBLEM STATEMENT

This work is a new step in the research of new technologies in digital accounting and business management whose principal researcher is Ph.D. Enrique Bonsón Ponte, Full Professor in the Department of Financial Economics, Accounting and Operations Management at the University of Huelva. The research group has its origins in 1995 when (within the framework of the Andalusian Research Plan) it obtained its recognition with the SEJ290 code. This dissertation was carried out within the project entitled a microsimulation analysis of the causes and consequences of corporate digital information disclosure: towards the optimization of public policy.

The area of social media (SM) and / or the Internet can be considered a young field of research in social and economic sciences. At first glance it seems to be limited for communication purposes related mainly to the marketing area, but in fact it is much more than that. It is a new multidisciplinary research area where SM *per se* is really only a platform. It is a tool of psychology, finance, business development, corporate governance, social responsibility, communication, sociology, political science, public administration and more.

The aim of this present work is two-fold. The first aim is to broaden the toolkit of this special research area by establishing and applying new metrics of corporate Facebook measurement, and the second goal is to identify Facebook usage practices and patterns by examining two main perspectives: the stakeholders and the municipalities.

Although the research is still in an ongoing phase, therefore it may broaden in the future, this work still represents great improvements and contributions to the examined field.

1.1 Background of the problem

The Internet has far more pages than there are people in the world. This situation comes as a result of past evolution in information technology. Barnatt (2001) discussed the first digital revolution, which started in 1980. Firstly it was about the storage of electronic binary digits or bits (Barnatt, 2001; Negroponte, 1995). At this period more and more media, products and services were pushed into an electronic format. The next step, which is the second digital revolution, is taking place currently (Barnatt, 2001). It means the everyday pulling of electronic, digital content into the perceptibly real world. This is most notably being catalyzed by the arrival and mass acceptance of an increasing range of digital media and communications devices in the consumer marketplace. The second digital revolution is consequently a reflection of the fact that

hardware and information technology (IT) are becoming low-cost and used in households, workplaces and even on the move (Barnatt, 2001). Obviously, neither the public nor the private sectors were allowed to be left out from these IT revolutions.

According to Gandia (2003) over the last decade we have witnessed a significant change in business models influenced by technology. This shift to a technology-based society has created new opportunities (and threats) for companies (Faber, 2007) and led to fundamental changes in business communication and management. These changes in the business environment have prompted scholars to pay particular attention to the paradigmatic shifts occurring in parallel in the business world. These shifts can be interpreted as: a shift from analogue to the digital world and as its direct consequence from paper-based (offline) to web-based (online) disclosure, or in other words: from a traditional reporting model to new avenues for reporting (voluntary disclosure – not inclusively about financial content), and finally from "informing" (broadcasting) to "communicating" (engaging), which opened the way to communicating, collaborating and sharing content easily and fast, basically with anyone.

These paradigmatic shifts (mainly caused by the digital revolutions) were the causes and supporters of the turn-out of social network sites / social networking sites (SNS)[6] or social media (SM). Anecdotal evidence shows that companies and local governments use SM for communication purposes with stakeholders. The usage of channels, such as Facebook, is inevitable for the public and private, or the profit and non-profit sectors. It must be stated that in

[6] *Hereby it is noted that social network and social networking are not 100% similar terms, although in the majority of cases they are used interchangeably. Networking is a relationship often between strangers, while the network phenomenon means a relation that is already stable (Boyd and Ellison, 2008). In this work these terms are used interchangeably – as synonyms – since there is no significant difference between them from the viewpoint of companies' / organizations' online presence.*

the current economic and social situation (which features a developed economy) it is almost obligatory to be 'online'. Day (1997) suggests that web presence is more important than service, access or content. Since nowadays all the sectors are present on SM, scholars must keep up with this new era of business strategies and marketing communication. As Stuart (2009) recognized, SNS are tools with high potential, although their impact and value are not easy to measure.

In fact, the examination of SNS / SM has become timely with the release of Web 2.0. Particularly, the "millennium generation" (Winograd & Hais, 2008) has been the main target with services such as YouTube, blogs, Wikipedia clones and various social networking sites. Slight differences can be detected between the sites, but there is a commonality to form online communities and share content. Nothing can describe the popularity of these sites better than an example: on the 15th of March 2011 Starbucks exceeded 20 million likes on Facebook (Morrison & Foerster, 2011). NielsenWire reported in 2010 that there are more than one 150 SNS, but Facebook (already in 2009) was ranked as first with 206.9 million unique visitors globally (Michaelidou *et al.*, 2011).

Nothing has changed until now. Facebook.com is still the first most popular SM in the world according to the three-month Alexa traffic rankings (Alexa.com, 2014). About 21% of visits consist of a single pageview (which means that these stakeholders use the Internet with the purpose to only enter Facebook). The average pageviews per visitor is 16 and daily approximately 30 minutes are spent on Facebook. Almost 7,000,000 links connect to Facebook.com and search engines refer approximately 7% of visits to Facebook (Alexa.com, 2014). As of December 2013 Facebook reached over 757 million daily active users, and 1.23 billion monthly active users were reported by the Facebook Newsroom (2014). Some 50% of the

active users log on to Facebook in any given day and people spend over 700 billion minutes per month on Facebook (Facebook, March 2011). The high number of users can convert the SM such as Facebook into a useful tool. Registration is free and so are the services. It is free of charge but companies need to make an appropriate level of investment at least (Won *et al*., 2010), which means that they have to prepare professional content and assign qualified employees to manage the communication (called community managers). The users in this model are both producers and consumers of content, for which the managers of the sites are only a framework.

This impressive growth has called the attention of scholars and business professionals, searching for its usable possibility in the private and public sector. According to Caers *et al.* (2013) Facebook may become an additional instrument to communicate with stakeholders. Cook (2008) said SM will allow companies to engage customers with their products by giving them a forum for exchanging personal experiences. In the growing body of literature on SNS several articles have been published focusing on Facebook in particular (Al-Debei *et al.*, 2013; Caers *et al.*, 2013; Dekay, 2012; Ellison *et al*, 2007; Gummerus *et al.*, 2012; Haigh *et al.*, 2013; Hughes *et al.*, 2012; Junco, 2012; Lever, 2012; Lewis *et al*., 2008; Mayer & Puller 2008; Mlaiki *et al.*, 2011; Mulvihill, 2011; Shi *et al.*, 2010; Waters *et al.*, 2009; Yang & Lai, 2011). Dwyer (2007) found that people have greater trust in Facebook than, for example, in MySpace. So Facebook can be a useful tool for building multiple ties, which may reduce costs (Shu & Chuang, 2011; Hansen *et al*., 2005; Levin & Cross, 2004).

1.2 Problem statement and the primary research question

The advent of the Internet not only reorganized the way in which companies and governments collect information, but also redefined stakeholders' expectations. Research on

governments showed that Web 2.0 applications are creating new features of innovation and improved transparency (Meijer & Thaens, 2010) and in some sense their stakeholders are recognized as partners and co-creators, not only consumers (Chua *et al*, 2012). Antecedents are in the public sector (Bertot *et al*, 2010; Bonsón *et al*., 2012; Rodriguez-Domínguez *et al*., 2011; Towner & Dulio, 2012), private sector (Bollen *et al*, 2011), financial sector (Bonsón & Flores, 2011; Sánchez-Franco & Martín-Velicia, 2011) or among the Fortune 500 companies (Esrock & Leichty, 1998; Pettigrew & Reber, 2010).

A high number of studies are mainly focused on customers. The use of SM for marketing purposes seems to be well-studied (Breslauer & Smith, 2009; Christodoulides, 2009; Dekay, 2012; Kalapesi *et al*., 2010; Michaelidou *et al.*, 2011; Mislove *et al*., 2007; Ralphs, 2011; Towner & Dulio, 2012; Yi, 1990): such as selling or maintaining online commercial interaction (Kalapesi *et al*., 2010; Mislove *et al*., 2007), branding (Christodoulides, 2009), increasing traffic to the organization's official website or collecting feedback from customers and developing interaction with them (Breslauer & Smith, 2009). It is notable that while the marketing and advertising activity has a highlighted role in research papers, there is a gap in the knowledge on measuring real interaction with stakeholders and voluntary disclosure on SNS. This lack provides the impetus for this study to address this gap and to analyze other possible potentials.

The recognized gap in the knowledge and Fogg's (1998) functional triad of computers may offer the basic idea of the research. His proposed functional triad of computers contains the following: the computer is a tool for increase capabilities, a medium to provide experiences and a social actor to create relationships. In my opinion this triad makes SM a possible and effective communication, reporting and engagement channel for corporations and institutions either in the

public or private sector. An interpretation of the role of SM that gives the basics of this study is presented in Figure 1.

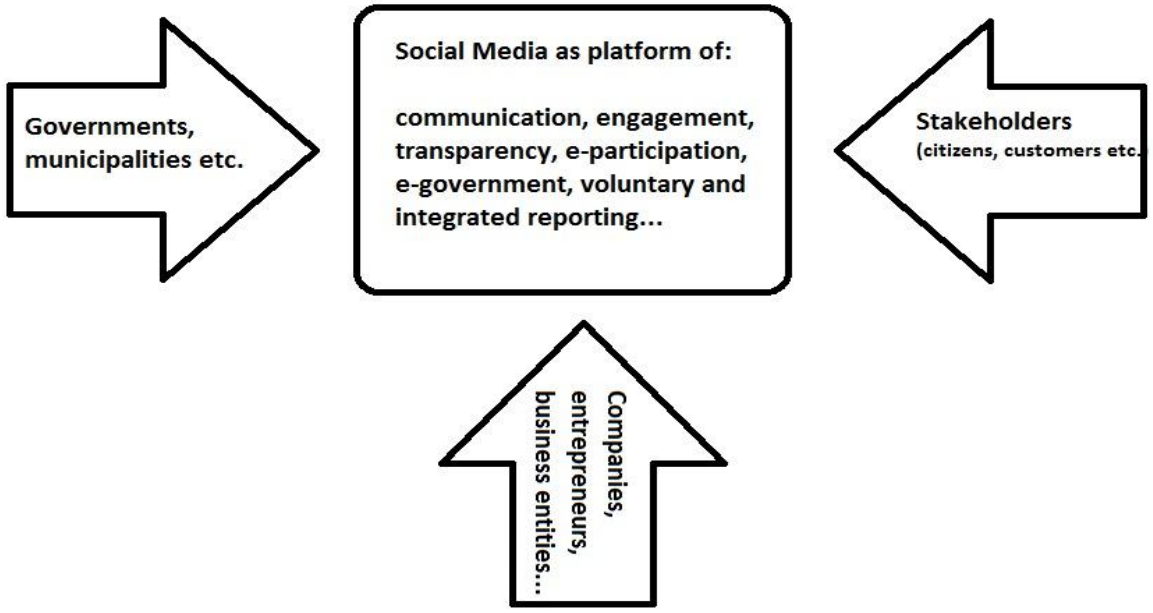

Figure 1: The role of social media

In this dissertation the examined platform, Facebook, may be interpreted as network of stakeholders. Rowley (1997) in his paper stated that social network analysis can offer a good perspective for an advanced stakeholder theory, where the primary factor is the interdependence of actors and how their positions can affect their behaviors and how the environment can modify the organizations' behavior (Wasserman & Galaskiewicz, 1994). Although an organization's position in its network is an important determinant of its behavior (Rowley, 1997: 892), stakeholders' behavior also has an impact on the company / municipality / organization (Rowley, 1997).

Winn (2001) suggested that the typical categories of stakeholders (as the generally accepted concepts of management studies) are not necessarily valid with any social construction. So the naming and clustering of stakeholders may differ by culture and history. He stated that any definitions applied for stakeholder groups / clusters are temporary and; either situation or issue specific. Therefore, in this study a widely interpreted group of stakeholders or / and citizens are used as synonyms. Note that hereby these expressions are used interchangeably. In this study under these aforementioned expressions Facebook users are meant (those who have interacted with the examined official channels in some way e.g. being fans of the site or those who have interacted by means of liking, commenting or sharing). The second chapter forms the only exception, where by stakeholders, the survey respondents are meant.

The contributions of this work are both practical and theoretical in nature since the applied and offered methodology is to broaden the toolkit of case-based stakeholder research by examining the following research question (RQ): *How is the Facebook platform actually being used by stakeholders and Western European local governments and how can this usage be measured and explained?*

Besides this primary research question, each chapter has its own research questions / propositions in order to examine the primary RQ in depth. In doing so, in Chapter 2 the inter-relations of factors that may influence the continuance use of Facebook are examined. The RQs are the following: Which factors influence continued use intention in relation to Facebook? Do attitudes toward the use of Facebook or satisfaction play a mediating role in continued use of Facebook?

In Chapter 3 in order to establish and present the corporate Facebook metrics of measurement the following questions are examined: How can reactivity and dialogic communication, stakeholder engagement, stakeholders' mood and social legitimacy be measured on corporate Facebook?

After establishing the prerequisites of the investigation (Chapters 2 and 3), in Chapter 4 (through a sample of larger-sized Western European local governments) the following questions are explored: How do municipalities use Facebook? And how are citizens engaging with their local governments? What factors influence activity levels by local governments and engagement levels by citizens?

In Chapter 5 the same sample of municipalities is analyzed with the approach of media and content impacts examining the following propositions: photo usage provokes citizens' participation; posts related to everyday issues in the municipality promote higher levels of citizen engagement; engagement levels by citizens are higher in more open local governments (those allowing wall posts by stakeholders); the institutional setting (public administration style) influences Facebook activity by local governments and citizens engagement.

And lastly, Chapter 6 contains the conclusions of this study.

1.3 Theoretical framework

This multidisciplinary area of scientific research, recently, is one of the most intensively developing ones that may show up a lot of new contributions for diverse scientific areas. Hence, this study takes as its references the literature existing on social and economic sciences, and theories from diverse fields such as socio-political (e.g. institutional, legitimacy, and stakeholder

theories), managerial (pre- and post-consumption theories, dialogic theory) and economical (e.g. agency theory) in order to examine social media (Facebook), digital transparency, digital voluntary reporting, e-participation, e-government and disclosure with the stakeholders / citizens. The approach of combining these theories has a tradition in prior studies. These theories are complementary rather than competing ones. Each of them is going to be explained and detailed in the relevant chapters regarding the theoretical foundation of the research chapters.

1.4 Research design

Since this dissertation comprises articles, each chapter can be treated as an independent research unit, but on the other hand these research chapters are still coherent. Each chapter contains a literature review along with hypotheses or research questions respectively (in order to investigate the primary research question more in depth and from different dimensions), an overview about the applied methodology, a description about the examined dataset, and finally sections of findings, discussions and conclusions. Given that these chapters were published or are under revision in peer-reviewed journals, they are certainly valid endeavors.

The structure of the dissertation is as follows:

Chapter 1 is the ongoing introductory part, which is to summarize the subject of this doctoral dissertation, offering the background and statement of the problem, the theoretical framework, the primary research question and the research design. The following two chapters (including both the second and third chapters) are like preambles of the research, in order to install the realizability of this doctoral dissertation. The fourth and fifth chapters are about the results of usage and practices and their interpretations.

The next chapter is Chapter 2, which aims to analyze what is needed to perpetuate use of Facebook as a social media channel involving pre- and post-consumption theories. Therefore the second chapter aims to understand why people continue or perpetuate their use of Facebook. This point is crucial in increasing users' acceptance. Factors such as confirmation, perceived usefulness, social influence, satisfaction and attitude were tested for their impact on continuance use intention in relation to Facebook. The inter-relations among the aforementioned constructs are tested with empirical data collected from 732 European university students.

Chapter 3 proposes a set of metrics to measure stakeholders' engagement (popularity, commitment and virality), stakeholders' mood and social legitimacy on corporate Facebook pages to assess ethical communication. There have been no Facebook metrics defined in previous scientific literature (an identified gap in the knowledge), hence this chapter has high theoretical and practical importance. Firstly the metrics offer measurability of online communication and engagement; and secondly they help to understand Facebook usage. Three theories (dialogic, stakeholders and legitimacy) were considered in the development of these metrics. They may help users, marketing / PR / communication professionals and company managers to measure their and their competitors' popularity, commitment, virality – metrics that reflect stakeholder engagement, the mood of stakeholders, and use content analysis in order to measure social legitimacy via corporate social responsible information disclosure on Facebook (thus the online reputation of a company).

The objective of Chapter 4 is to provide an initial assessment of Facebook use by larger-sized Western European municipalities considering two aspects: municipalities' activity and citizens' engagement. Data on 75 local governments in 15 countries were collected and tested as

of October 2012 for both government use and citizens' engagement also comparing results from North and South Europe in order to understand and interpret their impact.

In Chapter 5 the impact of media and content types are measured on stakeholders' engagement on larger-sized Western European local governments' Facebook pages. This chapter is based on theories of voluntary reporting, agency problems and citizen e-participation initiatives. In this chapter the same sample of governments reflects four different public administration styles. Data collection took place in March 2013, analyzing 50 posts from each municipality. The data were coded into 16 content types and 5 media types, respectively. Metrics of popularity, commitment, virality and engagement were also collected.

Finally, the last chapter (Chapter 6) is the conclusion of the study to provide answers to the primary research question, tie together and synthesize the individual research chapters, identify the findings and implications, provide directions for future research and highlight the limitations. The last chapter is followed by the references and appendices.

CHAPTER 2

FACTORS THAT MAY SUPPORT CONTINUED FACEBOOK USE INTENTION

2.1 Introduction

Social networking sites (SNSs) have opened up possibilities for enhanced online human-to-human, business-to-human, human-to-business and business-to-business interactions. One of the most popular social media platforms in Europe is Facebook (Cosenza, 2012). We wanted to understand which factors can lead to the continuance or perpetuation of use of Facebook.

The long-term development of social networking relies on users' continued use. In the beginning many SNSs used online gaming to attract users (Ximen *et al*., 2009), but practice shows that these games usually have a short life cycle. So then, which factors influence the intention to continue use of Facebook? Realizing and understanding the factors that result in intention to continue using Facebook as social media is important in both academic and professional circles, in particular because new technology platforms such as social media and/or online communities, especially Facebook, offer a multidisciplinary surface of analysis to various fields: sociology (Chang & Zhu, 2012; Hsiao & Chiou, 2012; Huang & Lin, 2011; Lahlou, 2008; Nam *et al.,* 2013*;* Shin, 2010), marketing and public relations (Shiau & Luo, 2012; Shin, 2010; Waters & Jamal, 2011), finance (Bonsón & Flores, 2011), for-profit organizations (Bonsón & Flores, 2011; Chang & Zhu, 2012; Hsiao & Chiou, 2012; Huang & Lin, 2011; Shiau & Luo, 2012; Shin, 2010) or non-profit organizations (Waters *et al*., 2009; Waters & Jamal, 2011).

It is important for professionals, too, both in for-profit and non-profit organizations, in order to understand their stakeholders better (Huang & Lin, 2011; Waters *et al*., 2009) and thereby increase the productivity, sales, reputation, etc. of the organization (Bonsón & Flores, 2011; Chang & Zhu, 2012; Hsiao & Chiou, 2012; Huang & Lin, 2011; Shiau & Luo, 2012).

Papers on acceptance and continued use intention have focused on information systems (IS) (Bhattacherjee, 2001; Chang & Zhu, 2012; Davis, 1989; Ximen *et al*., 2009); web 2.0 (Chen *et al*., 2012); SNSs (Chang & Zhu, 2012; Chen *et al*., 2012; Hsiao & Chiou, 2012; Hu & Kettinger, 2008; Kim, 2011; McKnight *et al*., 2011); mobile instant messages (Deng *et al*., 2010); e-learning platforms (Escobar-Rodriguez & Monge-Lozano, 2012), or Facebook (Cheung & Lee, 2010; Hsu *et al*., 2013; Lankton & McKnight, 2011; Lankton *et al*., 2012; McKnight *et al*., 2011; Shi *et al*., 2010; Suki *et al*., 2012; Yang & Lai, 2011).

Lankton *et al*. (2012) and Lankton and McKnight (2011) focused on trusting beliefs, leaving out other factors. Trusting belief may be an important factor influencing continued use, but it is not the only one. Cheung and Lee's (2010) research examined participation and continuance as an intentional social action where users regard themselves as part of the society of online social networks, which suggests the concept of intentional social action (we-intention). Their study is thus more about participation than strictly related to use continuance.

McKnight *et al.* (2011) examined whether privacy influences users' information disclosure and their continued use intention. Users displayed a clear disconnect between their reasons to disclose on Facebook and their reasons to continue to use it. Shi *et al*. (2010) dealt with four kinds of disconfirmation as the antecedents of satisfaction: maintaining offline contacts, meeting new people, information seeking and entertainment. Suki *et al*. (2012) suggested other factors to examine in the form of perceived enjoyment. Their findings suggested that Facebook should focus on interesting features and games to boost the number of users. Yang and Lai (2011) examined three different value orientations, including fashion orientation. Their findings confirmed that individuals may consider Facebook in vogue and thus by using it they may be

considered fashionable. As a result, for individuals driven by a fashion orientation, there is also a significant influence on their satisfaction with Facebook usage.

Hsu *et al.*'s (2013) study is the closest in spirit to our tested model of inter-relations. In a fascinating study, Hsu *et al*. (2013) investigated the effects of intrinsic and extrinsic motivation through a proposed integrated model. They integrated the technological acceptance model (TAM), the expectation disconfirmation model (EDM), the theory of planned behavior (TPB) and flow. Hence, firstly we aimed to prepare an extended model of post-acceptance IS continuance by integrating TAM, the theory of reasoned action (TRA), EDM, and the unified theory of acceptance and use of technology (UTAUT). Secondly, we followed the spirit of Bhattacherjee (2001) and Hsu *et al*. (2013), extending and adapting these models by incorporating other psychological factors and examining which of these impact continuance intention (CI) in case of Facebook. Therefore this study, by taking a different approach, seeks to answer the following questions: (1) Which factors influence continued use intention in relation to Facebook? (2) Do attitudes toward the use of Facebook or satisfaction play a mediating role in continued use of Facebook? Thus, this chapter contributes an extended model of post-acceptance and identifies certain factors which seem to influence the perpetuation of use of Facebook.

The rest of the chapter is organized as follows. The second section (2.2) comprises a review of prior studies. Section three (2.3) presents the set of hypotheses examined and explains the associated factors (confirmation, perceived usefulness, social influence, satisfaction, attitude, continued use intention). In section four (2.4) the research methodology is described, followed by the suggested research model of inter-relations. The fifth section (2.5) provides the data analysis and explains the results obtained using the PLS technique. In section six (2.6) a discussion of the

findings takes place together with the implications of the study. Finally, in the conclusion part (2.7), the main findings are highlighted briefly followed by the limitations and also suggestions for future research directions.

2.2 Theoretical background

In order to analyze the perpetuation of use of Facebook, an extended continuance model testing inter-relations is proposed. The main structure is based on Bhattacherjee (2001) (Figure 2) and has its foundation in a wide range of intention models.

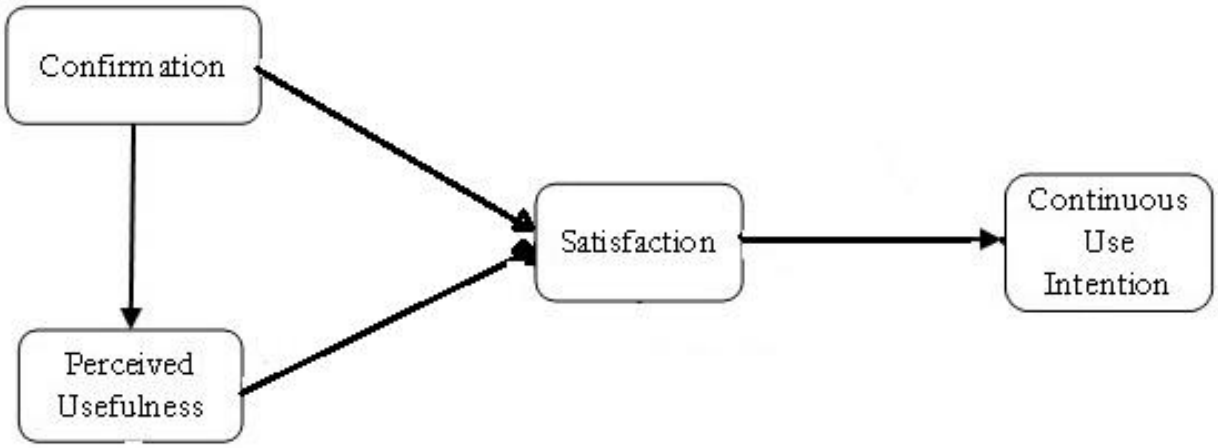

Figure 2.: Post-acceptance model of IS continuance

The main theories which provide the basis for this research can be divided into two groups (Bhattacherjee, 2001). The first group includes pre-consumption theories and examines different variables that motivate individuals to accept a new IS. The TAM explains computer usage behavior (Davis, 1989) by examining perceived usefulness, perceived ease of use, users' attitudes, intentions and actual computer adoption behavior. Davis (1989) suggested that computer usage may be predicted reasonably well from the use intention. He adapted TRA

(Fishbein & Ajzen, 1975), which explains virtually any human behavior, alongside innovation diffusion theory (Rogers, 1995) and TPB (Ajzen, 1991). Although initial acceptance of IS is the first basic step, the analysis cannot stop here. The main intention from the business point of view is the continued use of these IS, which leads us to the post-consumption approach (referring to the second group) or continued use of IS (Bhattacherjee, 2001). In the literature, this concept is referred to as implementation (Kwon & Zmud, 1987), routinization (Cooper & Zmud, 1990), and continued or discontinued use (Rogers, 1995). Previous studies examined continued use as the extension of acceptance behaviors and therefore they were unable to explain why some users finally decided to discontinue IS use after they had initially accepted it. This is the so-called acceptance-discontinuance anomaly, which Bhattacherjee (2001) attempted to explain by considering psychological motivations that had been omitted in previous research.

The present study is similar in spirit to Bhattacherjee (2001) in that it adds two external variables to the post-acceptance model of IS continuance (Figure 3). The original post-acceptance model relates confirmation, perceived usefulness, satisfaction and continued use intention. In previous research, other TAM studies aimed to identify additional factors such as availability and reliability of service (Meso *et al*., 2005), trust (Mahatanankoon *et al*., 2006) or social influence (Kleijnen & Wetzels, 2004). These studies provide evidence that external factors do indeed contribute to shaping continued use intention. The variation of the model - that used as the research model in this chapter - consists of two additional factors, adapted from earlier research, which could explain the psychological motivation of users' behavior. One is attitude (derived from TAM and TRA) and the other is social influence (derived from TAM, TRA and UTAUT).

2.3 Hypotheses

Our model of inter-relations (Figure 3) is based on six constructs from prior research. In this section the measurement of the items, their definitions and a detailed explanation of each item along with the hypothesis developed are delineated.

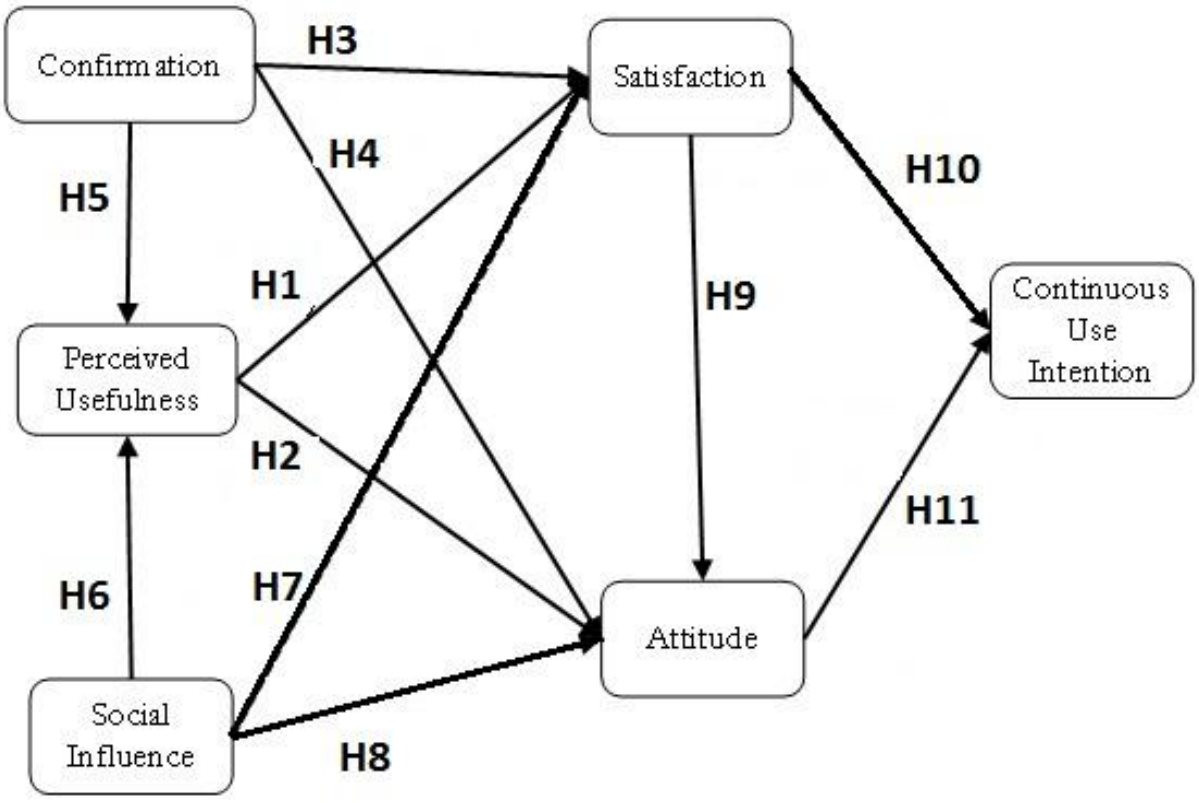

Figure 3: Research model: relations and hypotheses

2.3.1 Perceived usefulness

The first construct is perceived usefulness (PU), which indicates the users' perception of the expected benefits of IS usage. Perceived usefulness tends to be employed as a variable relating to individual technology adoption and therefore not only is a positive relationship

expected with satisfaction (SA) but, according to Davis *et al. (*1989), is the major determinant of attitude (AT) and intention to use computers. Following this logic, a significant relationship is also expected with attitude. The relationship between perceived usefulness and satisfaction is traditionally derived from the post-acceptance model (Bhattacherjee, 2001), while that between perceived usefulness and attitude relates to TRA (Fishbein & Ajzen, 1975) and TAM (Davis, 1989). Other findings also support the idea that PU is an important determinant of attitudes (Hsu *et al*., 2013; Suki *et al*., 2012). Therefore, the first two hypotheses in this study can be stated as follows:

H1: Perceived usefulness has a significant effect on satisfaction.

H2: Perceived usefulness has a significant effect on attitude.

2.3.2 Confirmation

The second construct is confirmation (CO), which indicates the congruence of users' perception between expectation of IS use and its actual performance; this measurement is adapted from Bhattacherjee (2001). It was drawn from the post-acceptance model (Bhattacherjee, 2001), which was based on expectation-confirmation theory (ECT). As Bhattacherjee's study found, both confirmation and perceived usefulness were strong predictors of satisfaction and they had a significant positive effect on both PU and SA, so we may conclude that SA is influenced by the users' confirmation level. Because perceived usefulness is a belief based on cognitive dissonance theory (Festinger, 1957), attitude and satisfaction likewise seem to be related. We thus propose the following hypotheses:

H3: Confirmation has a significant effect on satisfaction.

H4: Confirmation has a significant effect on attitude.

H5: Confirmation has a significant effect on perceived usefulness.

2.3.3 Social Influence

The third construct is social influence (SI), which reflects users' perception of the importance of IS usage as influenced by others; it employs a measurement adapted from Venkatesh *et al*. (2003). Among others, Kleijnen and Wetzels (2004) added social influence as an additional factor in their analysis, but SI is basically an element of TRA, TAM and UTAUT. In this research SI is added as an additional factor to the original post-acceptance model. Earlier UTAUT research suggests that SI is only significant when the user has limited experience (Venkatesh *et al*., 2003). This means that others' opinions are significant only in the early stages of experience (Agarwal & Prasad, 1997; Hartwick & Barki, 1994; Karahanna *et al*., 1999; Taylor & Todd, 1995a; Thompson *et al*., 1991, 1994; Venkatesh & Davis, 2000).

Since this chapter examines continued use - i.e. a post-acceptance model - the early stage of experience does not apply. Therefore the following hypotheses are proposed:

H6: Social influence has NO significant effect on perceived usefulness.

H7: Social influence has NO significant effect on satisfaction.

H8: Social influence has NO significant effect on attitude.

2.3.4 Satisfaction

The fourth construct is satisfaction (SA); it is adapted from Spreng *et al*. (1996), who employed an overall satisfaction scale that expresses users' impact in terms of feelings about prior IS usage. Satisfaction is viewed as the key to a loyal relationship (Anderson & Sullivan, 1993). It was initially defined by Locke (1976) and later extended by Oliver (1981) as a psychological state when expectations are coupled with prior feelings about the consumption experience. Finally, the satisfaction construct used here was created by Yi (1990). Although other

authors view satisfaction as similar or equal to attitude (LaTour & Peat, 1979), in this study we based our viewpoint on the idea that attitude is an emotion, while satisfaction is an evaluation of that emotion (Hunt, 1977). This means that one may have a good experience using a product or service, but may also feel dissatisfied if the product or service is below expectations. Previous studies have demonstrated that users' satisfaction is an important factor in continued use intention (Chang & Zhu, 2012; Kim, 2011; Shi *et al*., 2010), but Mlaiki *et al*. (2011) found it not to be significant in their model using a similar sample to ours. In order to examine satisfaction, the following hypotheses are postulated:

H9: Satisfaction has a significant effect on attitude.

H10: Satisfaction has a significant effect on continued use intention.

2.3.5 Attitude

The fifth construct consists of the attitude toward using technology (AT) which expresses the users' overall affective reaction to using IS. The measurement employed is adapted from Venkatesh *et al.* (2003). In our model, attitude is added as an external variable (from TAM) to the post-acceptance model of IS continuance. AT can originally be found both in TAM and TRA. Here it is added as a psychological factor, expressing emotion (Hunt, 1977). In their original forms, both TAM and TRA used 'attitude towards using' and 'behavioral intention to use' as factors. A study of Legris *et al*. (2003) reviewed 22 studies and found that only seven included both AT and 'behavioral intention to use', three included only AT, and eight included only 'intention'. Although some studies found that the relation between 'attitude' and 'intention' was found not to be significant (Taylor & Todd, 1995a,b), others found the relationship to be significant and positive (Davis, 1989, 1993; Davis *et al*., 1989; Dishaw & Strong, 1999;

Karahanna *et al*., 1999; Mathieson, 1991). Based on this research, the last hypothesis is the following:

H11: Attitude has a significant effect on continued use intention.

2.3.6 Continued use intention

The sixth construct is continued use intention (CUI), related to the use of IS adapted from Bhattacherjee (2001), which reflects users' intention to continue using IS. The main goal of this study is to examine CUI related to Facebook by suggesting factors that may influence this continuity and then to examine whether the proposed hypotheses are confirmed or not. This also means that all suggested antecedent items are drawn to this last, sixth construct. Hsu *et al.* (2013) found that perceived usefulness, attitude and satisfaction all influence CUI toward social networking websites. Therefore, on the basis of the hypotheses developed here, similar findings are expected.

2.4 Research methodology

This research is based on a regression analysis of latent variables using the optimization technique of partial least squares (PLS) to develop a model that represents the relationships among the six proposed constructs measured by many items. PLS is a multivariate technique for testing structural models (Wold, 1985). The PLS method estimates the model parameters and minimize the residual variance of the dependent variables in the whole model (Hsu *et al*., 2006); it does not require any parametric conditions (Chin, 1998) and is recommended for small samples (Hulland, 1999).

Empirical data for this study were collected via a field survey of Facebook users. The survey respondents were European Erasmus business studies students at a Spanish university and their university peers from home institutions. The study focuses mainly on university business students because, in a few years, these students are going to be the decision-makers and/or target groups of different campaigns by for-profit or non-profit companies, so understanding their behavior can help professionals to design an appropriate campaign in any field. An online field survey was deemed appropriate for this study because it offers lower costs, faster responses and the inclusion of a geographically unrestricted sample (Tan & Teo, 2000) the characteristics of which cover the features of the target group.

In total, 732 usable responses were obtained. The questionnaire had two parts and was written in English (the students attended courses taught in English). The first part was a general survey to help eliminate respondents with no Facebook experience and to collect data on gender, age, profession, education; in addition, one question focused on other social media channel usage (Twitter, LinkedIn, YouTube, other). The second part was created using items for the theoretical constructs described above validated in prior research, but modified to focus on Facebook use (see Table 1).

2.5 Data analysis and Results

The data were analyzed using a two-stage methodology. First the measurement model was developed and evaluated separately from the full structural equation model (Gerbing & Anderson, 1988). Therefore, the first step involved establishing individual reliability for each item and the convergent and discriminant validity of the constructs. The individual reliability for each item was given by loadings or correlations between the item and the construct. The

convergent validity of each construct was acceptable with a loading higher than 0.505 (Falk & Miller, 1992). Table 1 indicates the loadings for each item. All comply with the established conditions.

Examining reliability makes it possible to measure the internal coherence of all the indicators in relation to the constructs. To verify the reliability of indicators, Cronbach's alpha reliability coefficient (Cronbach, 1970) and the composite reliabilities coefficient (Werts *et al*., 1974) were calculated; these range from 0 (no similarity) to 1 (maximum similarity). Both parameters were taken into account as the first considers the contribution made by each indicator in terms of similarity while the second takes the respective indicators into account. Table 2 indicates the values of each coefficient. Composite reliabilities are above the minimum acceptable limit of 0.70 (Gefen *et al*., 2000; Nunnally, 1978). The Cronbach alpha reliability coefficient levels are also shown in Table 2. They were all above 0.70, which is recommended for confirmatory research (Churchill, 1979).

In order to confirm the discriminant validity among constructs, the AVE square root must be superior to the correlation between constructs (Fornell & Larcker, 1981). Table 3 indicates the square roots of the AVE (on the diagonal) and the correlation between constructs. It suggests adequate discriminant validity of the measurements.

Convergent validity represents the common variance between the indicators and their construct. It is measured by the average variance extracted (AVE); the acceptable threshold is higher than 0.50 (Fornell & Larcker, 1981). Table 3 presents the AVE scores for each of the six constructs employed, which in all cases surpass the minimum desirable value.

Construct	Item	Loading
Social Influence	People who influence my behavior think that I should use Facebook (SI1)	0.966
Social Influence	People in my organization/school/university who use Facebook have more prestige than those who do not. (SI2)	0.757
Social Influence	Having Facebook is a status symbol in my organization/school/university (SI3)	0.966
Continuous use intention	I will continue using Facebook (CI1)	0.861
Continuous use intention	I will recommend Facebook to others (CI2)	0.831
Continuous use intention	I will NOT stop using Facebook (CI3)	0.837
Satisfaction	I feel very satisfied about my overall experience of Facebook use (SA1)	0.862
Satisfaction	I feel very pleased about my overall experience of Facebook use (SA2)	0.890
Satisfaction	I feel absolutely delighted about my overall experience of Facebook use (SA3)	0.828
Perceived usefulness	The information provided on Facebook pages is valuable (PU1)	0.869
Perceived usefulness	The information provided on Facebook pages is informative (PU2)	0.901
Perceived usefulness	The information provided on Facebook pages is helpful (PU3)	0.854
Confirmation	My experience with using Facebook was better than what I expected. (CO1)	0.966
Confirmation	The service level provided by Facebook was better than what I expected (CO2)	0.720
Confirmation	Overall, most of my expectations from using Facebook were confirmed (CO3)	0.964
Attitude	Using Facebook is a good idea (AT1)	0.880
Attitude	Using Facebook is a wise idea (AT2)	0.870
Attitude	Using Facebook is pleasant (AT3)	0.872

Table 1: Items loading

Construct	Composite Reliability	AVE	Cronbach Alpha
Perceived usefulness	0.907	0.765	0.846
Confirmation	0.919	0.794	0.862
Social Influence	0.928	0.814	0.880
Satisfaction	0.895	0.740	0.824
Attitude	0.907	0.764	0.845
Continuous use intention	0.880	0.710	0.796

Table 2: Composite reliability, AVE and cronbach coefficient alpha

	Perceived usefulness	Confirmation	Social Influence	Satisfaction	Attitude	Continuous use intention
Perceived usefulness	0.875					
Confirmation	0.354	0.891				
Social Influence	0.156	0.119	0.902			
Satisfaction	0.308	0.457	0.138	0.860		
Attitude	0.390	0.469	0.061	0.564	0.874	
Continuous use intention	0.208	0.344	0.080	0.243	0.398	0.843

Table 3: Discriminant validity of constructs

To complete the analysis of the convergent and discriminant validity of the measurements, the factor structure matrix of loadings and cross-loadings were analyzed (Table 4). Items measuring the same construct indicate prominently and distinctly higher factor loadings

on a single construct than on other constructs. This is also an indication of the convergent and discriminate validity of the measurement.

	Perceived usefulness (PU)	Confirmation (CO)	Social Influence (SI)	Satisfaction (SA)	Attitude (AT)	Continuous use intention (CI)
PU1	0.869	0.286	0.156	0.288	0.342	0.153
PU2	0.901	0.299	0.122	0.264	0.321	0.229
PU3	0.854	0.346	0.132	0.257	0.363	0.163
CO1	0.347	0.966	0.099	0.427	0.463	0.367
CO2	0.249	0.720	0.134	0.375	0.313	0.169
CO3	0.341	0.964	0.094	0.421	0.460	0.355
SI1	0.130	0.088	0.966	0.126	0.047	0.035
SI2	0.163	0.150	0.757	0.121	0.069	0.152
SI3	0.137	0.095	0.966	0.128	0.054	0.048
SA1	0.282	0.463	0.141	0.862	0.511	0.255
SA2	0.281	0.386	0.084	0.890	0.502	0.186
SA3	0.231	0.329	0.134	0.828	0.440	0.187
AT1	0.406	0.446	0.065	0.500	0.880	0.417
AT2	0.308	0.343	0.066	0.447	0.870	0.273
AT3	0.308	0.440	0.029	0.531	0.872	0.351
CI1	0.167	0.286	0.067	0.217	0.364	0.861
CI2	0.171	0.259	0.075	0.194	0.299	0.831
CI3	0.189	0.323	0.060	0.204	0.341	0.837

Table 4: Factor structure matrix of loadings and cross-loadings

After the individual reliability for each item and the convergent and discriminate validity of the constructs had been established, the structural model was examined. To test H1 through H11, a PLS analysis was performed. The regression coefficients are based on a bootstrapping of 100 resamples and not on a samples estimator. This permits the generalization of the results and the computation of Student's t-test for each hypothesis (Lévy *et al.*, 2009). The results presented in Figure 4 summarize the relationships between the different constructs. The predictive capability of the model is satisfactory because all R-Squared measures are higher than 0.10 (Falk & Miller, 1992).

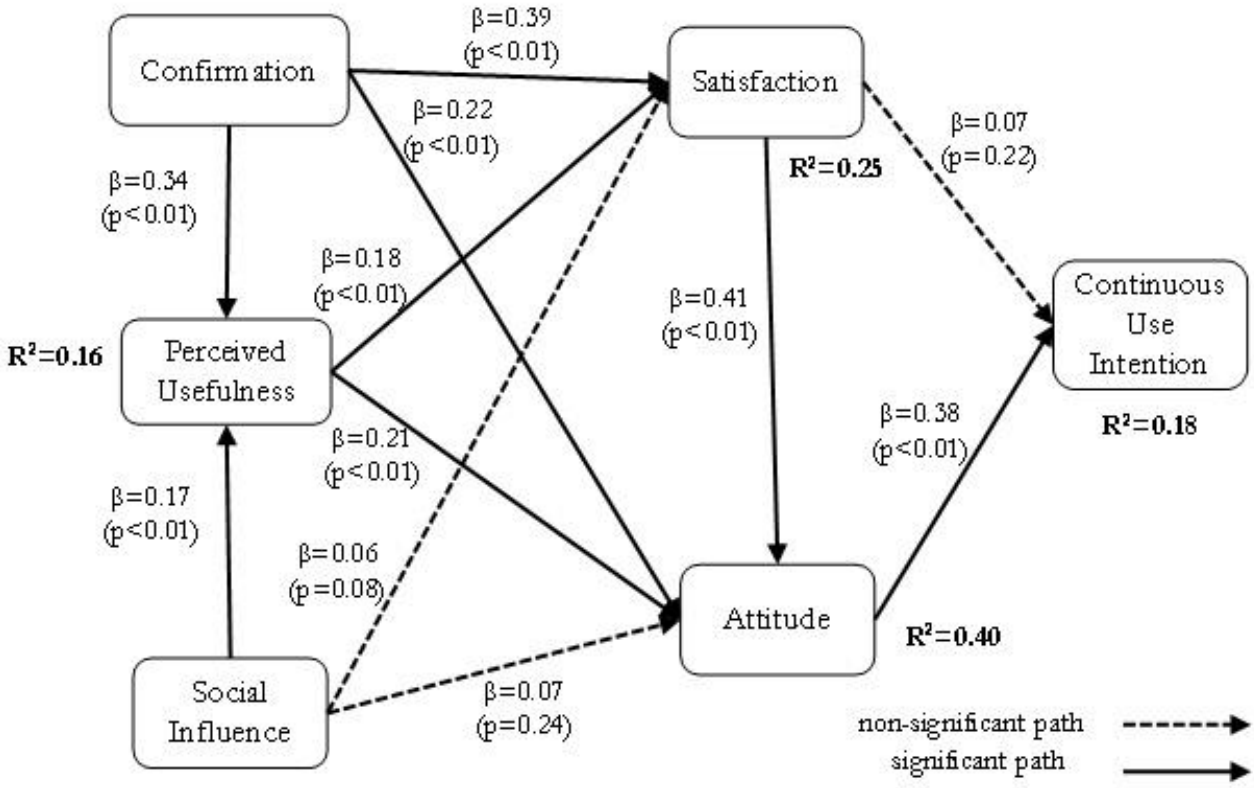

Figure 4: PLS analysis of the research model

2.6 Discussion

Certain inferences can be drawn from the findings (Table 5). Originally, TAM suggested that there was a significant relationship between perceived usefulness and attitude, and continuance theory suggested that there was a significant relationship between perceived usefulness and satisfaction. Based on our structural equation model, these relationships (H1, H2) are both positive and significant, so the hypotheses are supported. Satisfaction is affected by confirmation (H3) and perceived usefulness (H1), but not by social influence (H7), as expected. Social influence is an interesting point in the analysis, because no significant relationships were expected in terms of perceived usefulness, satisfaction or attitude (H6–H8).

However, according to the model, social influence has an impact on perceived usefulness (H6). A possible reason might be that perceived usefulness is more closely related to the first experience or pre-consumption of IS than to its continued use. Perceived usefulness is also affected by confirmation (H5), so the finding supports the post-acceptance model (H1, H3, and H5). The only difference in the extended research model compared to the original one is the strength of the relationship between satisfaction and continued use (H10). In our case, this relation is a non-significant one, but between attitude (from TAM) and continued use intention (H11) a significant link (ß=0.38) was found.

As described in Section 2.3.4, a strong link was hypothesized between satisfaction and attitude (H9); this was suggested by earlier literature and was confirmed by our findings. This very significant relationship (ß=0.41) and the fact that satisfaction and attitude were supposed to be similar terms might be the reason we could not confirm the original relationship based on the post-acceptance model. On the other hand, that attitude directly influences continued use, while

satisfaction has only an indirect effect, seems well established, confirmed by 732 results. Other research in the field has usually worked with a smaller sample, such as those studies by Shi *et al*. (2010), who used 125 questionnaires, or Yang and Lai (2011), who collected 205 questionnaires. Others - for example Suki *et al.* (2012) - simply omitted satisfaction from the model and focused only on attitude toward use. In our model, attitude was also affected by confirmation (H4).

Hypothesis	Path	Coefficient	Supported?	Construct	R-squared
H1	PU -> S	0.18	Yes, p<0.01	S	0.25
H2	PU -> A	0.21	Yes, p<0.01	A	0.40
H3	C -> S	0.39	Yes, p<0.01	S	0.25
H4	C -> A	0.22	Yes, p<0.01	A	0.40
H5	C -> PU	0.34	Yes, p<0.01	PU	0.16
H6	SI -> PU	0.17	No	PU	0.16
H7	SI -> S	0.06	Yes, p=0.08	S	0.25
H8	SI -> A	0.07	Yes, p=0.24	A	0.40
H9	S -> A	0.41	Yes, p<0.01	A	0.40
H10	S -> CI	0.07	No	CI	0.18
H11	A -> CI	0.38	Yes, p<0.01	CI	0.18

Table 5: Summary of test results for the structural model

Synthesizing the answer to the first research question, the factor which influences continued use of Facebook is the attitude toward using the technology (ß=0.38); this is affected by satisfaction (ß=0.41), confirmation (ß=0.22) and perceived usefulness (ß=0.21). Thus, attitude directly influences CUI, while satisfaction only jointly affects it. Mlaiki *et al*. (2011) presented

similar results in a study examining how habit and satisfaction impact CUI among students. They found that habit impacts CUI, while satisfaction has no direct effect on continued use.

In answer to the second research question, our model suggests that attitude toward Facebook usage has a more significant effect on continued use than satisfaction (as might be expected from previous studies). A possible reason might be that Facebook - and SNS more generally - are a fashionable technology to use. Lahlou (2010) suggested that social media will in the future be used for experience sharing. For several years now, researchers have been analyzing whether SNS are merely a fad or powerful social and business tools (Donath, 2007, among others). Whatever they are, users are online and active on them. Therefore, stakeholders' feelings about previous Facebook use seem to be less important than users' or stakeholders' attitudes. In other words, it seems that, even if someone is dissatisfied or has negative feelings about Facebook, this does not necessarily mean that the person will no longer use it, because using Facebook seems to be good/sensible/pleasant. This finding strengthens that of Lankton *et al.* (2012), who also found that attitude drives CUI.

Our results have practical implications that are important for managers and developers helping users deal with SNS. There are many factors that software developers should consider, and our findings show that they should also pay attention to the usefulness of SNS, as well as to the formation of users' attitude. Facebook providers should try to emphasize these attributes in their design and decision-making processes; in addition, they should explore ways to ensure that SNS evoke favorable feelings in their users. By understanding which features of these sites shape positive attitudes, managers and developers might strengthen the weak link between attitude and CUI for less and/or more experienced users.

2.7 Conclusion, limitations and future research

This study corroborates the model of post-acceptance of IS continuance, except for the relationship between satisfaction and continued use, which was found not to be significant in our case. Attitude was found to be more significant and to have a greater effect on continued use than satisfaction. We extended the model of post-acceptance by incorporating two additional factors covering attitude and social influence. As expected, social influence essentially had no impact within the model, so it seems that CUI in relation to Facebook is affected primarily by stakeholders'/users' attitudes toward using this technology.

The study has several limitations. The first involves the data source. Although there are many social media channels, this research focuses only on Facebook and includes only business university students. This specific data source is considered important in terms of analyzing one of the most popular social media demographics and a generation that, within a few years, will be new employers and employees, businessmen and businesswomen. However, university business students are a very particular and specific population, one which may have greater exposure to social media and information technology than the average population; furthermore, due to their education, they may have a different view of this media. Hence, this could be the reason why the attitude of users is especially salient compared to other tested factors. It is known that the generation examined is very familiar with new technologies, using e-mail, etc., and therefore their attitude implies a higher CUI. A second limitation concerns the developmental stage of Facebook; it is now in its eighth year, but this can be considered a relatively early stage in the life cycle within the marketing and IS field, so it requires lengthy observation. A third issue is that focusing on six constructs does not address other motivational, contextual and psychological factors that could shape Facebook use. Finally, because the respondents were current (and

continuing) users of Facebook, they may be prejudiced in comparison with non-users or those who discontinue use.

Several other interesting factors of continued use have not been examined to date. Therefore, some other factors - e.g. message quality (Deng *et al*., 2010), source credibility (Tormala *et al*., 2006), perceived interactivity (Teo *et al*., 2003), perceived playfulness (Lin *et al*., 2005), training (Escobar-Rodriguez & Monge-Lozano, 2012), perceived enjoyment (Davis *et al*., 1992), locus of control (Maddux, 1995), critical mass (Chen *et al*., 2012), or self-efficacy (Bandura, 1977; Marakas *et al*., 1998) - could be included in the model in the future and be analyzed according to the effect on use intention. This research provides many opportunities for future researchers to extend our findings. The ideal would be to test both pre- and post-acceptance of Facebook within a longitudinal comparison in order to capture a complex picture of use.

CHAPTER 3

CORPORATE FACEBOOK METRICS TO ASSESS STAKEHOLDERS' ENGAGEMENT

3.1 Introduction

Companies use social media for communication purposes with stakeholders. The field of marketing and PR is generally well studied within the topic of communication, for example how firms support their brands (Breslauer & Smith, 2009; E-Marketer, 2010; Michaelidou *et al*., 2011). The goal is to identify Facebook metrics to help the measurement of this online SNS channel for professionals focusing on stakeholders, corporate social responsibility and social legitimacy.

This chapter provides insights into some corporate Facebook practices and proposes new measurement metrics of popularity, commitment, and virality, stakeholders' mood and content analysis. Thus it also examines the online reputation of a firm. The proposed metrics were found to be valid and usable according to the principles of the applied theories. The aim was to develop a new dimension of measurements from which new findings and implications can be drawn.

The chapter seeks to address the following research questions based on three theories (these theories are explained in the 3.4 section):

RQ1. How can reactivity and dialogic communication be measured on corporate Facebook?

RQ2. How can stakeholder engagement be measured?

RQ3. How can stakeholders' mood be measured on corporate Facebook?

RQ4. How can social legitimacy be measured on corporate Facebook?

3.2 Prior research

Social networking is part of Web 2.0, which means the user is no longer just a consumer of the content, but also actively participates in creating and shaping it. This new stage of the Internet opened the way to communicate, collaborate and share content easily and fast online, basically with anyone. Some relevant studies deal with Web 2.0 (Chua *et al*., 2012) and the Internet (Calero *et al*., 2005; Hariri, 2010) in general or focus on a particular issue such as the measurement of URLs for different purposes, such as advertisements (Saikat & Bin Cheng, 2010) and information propagation (Esrock & Leichty, 1998; Zheng *et al*., 2010).

Granovetter (1973) pioneered the direction of social network research as a scholarly discipline. The growth of social network analysis as an academic field has coincided with the popularity of social network sites (web-based services such as Facebook) that allow individuals to have their own profile, have a list of other users, and view their list of connections (Boyd & Ellison, 2008). Researchers have long recognized the potential of online communication technologies for improving network research (Rogers, 1987; Watts, 2007). Works related to social network analysis offer models measured by social graphs (Sala *et al*., 2010) or large scale data clustering (Becker *et al*., 2010).

Some others report on the usage of SNS, virtual communities or social networking in general (Hsiao, 2011; Royo-Vela & Casamassima, 2010) or focus on a special channel or sector. The channels include blogs as a relationship building tool (Seltzer & Mitrook, 2007), a Facebook channel (Ellison *et al*., 2007; Hughes *et al*., 2012; Junco, 2012; Lever, 2012; Lewis *et al*., 2008; Waters *et al*., 2009), Myspace (Thelwall, 2009) or Twitter account (Fischer & Reuber, 2011; Hughes *et al*., 2012; Lovejoy *et al*., 2012) etc. The sector can be, for example, the tourist industry

(Illum *et al*., 2010; Isacsson & Gretzel, 2011; Litvin *et al*., 2008; Xiang *et al*., 2009; Ye *et al*., 2011), government (Bonsón *et al*., 2012; Rodriguez-Domínguez *et al*., 2011; Towner & Dulio, 2012), the financial sector (Bonsón & Flores, 2011) or e-banking services (Sánchez-Franco & Martín-Velicia, 2011). Beyond those the Fortune 500 (Esrock & Leichty, 1998; Pettigrew & Reber, 2010) and EuroStoxx companies (Bonsón & Ratkai, 2011) have also been analyzed.

3.3. Problem definition

None of the cited works dealt with corporate Facebook metrics, although there has been ongoing debate about how Facebook can be successfully integrated into companies' communication strategies. This is why we decided to conduct this research in order to provide a set of metrics both for further research and professional purposes.

The suggested metrics make possible the measurement of stakeholder engagement (popularity, commitment, virality), and the mood of stakeholders, while content analysis is used to determine which elements influence the online reputation of a firm. All the suggested metrics are public, making it easy to assess competitors. This leads to the conclusion that both academics and professionals/managers can also benefit from this research.

The theoretical foundation is drawn from communication management and social sciences in general (because the online presence of a company provides stakeholders with access to essential corporate information) and thanks to the new technologies, provides the possibility of symmetrical communication.

3.3.1 Dialogic, symmetrical communication

Pearson (1989) suggested that ethical communication management should be more dialogical than monologue. Both include an element of reactivity and the desire to provide immediate information (Pettigrew & Reber, 2010). In particular, journalists as stakeholders expect this functionality from web platforms (Pettigrew & Reber, 2010). Journalists iterate that a poor web presence can reduce the press coverage of a company (Nielsen, 2009). So companies need to keep up with developing technology (Pettigrew & Reber, 2010) and integrate this knowledge and these tools into their communication strategy.

Roper (2005) argued that symmetrical communication can lead to greater power for the organization than asymmetrical communication. According to Habermas (1990) a dialogue cannot be dominated by one side, and it should be cooperative and communicative. As Pettigrew and Reber (2010) stated, one of the features of a dialogic act is its power. In this work the Foucauldian approach is used, which can be described as power which exists in a network of relationships rather than the kind of power that influences from the top down. So it can be understood as a rejection of common power concepts. According to Foucault (1980) the power is not monopolized (which could only have a negative aspect), because the power can exclude dialogues, but on the other hand it can also create them. This mechanism raises the possibility of resistance. The question naturally arises of how to create conditions for dialogue: we suggest that corporate Facebook can be one solution.

Dialogic theory suggests that it is not the outcome that is important within the communication, but the process itself (Heath *et al*., 2006; Kent & Taylor, 1998; Kelleher, 2007; Pettigrew & Reber, 2010). It is more about open and negotiated discussion than agreement (Kent

& Taylor, 1998). Technology itself can neither create nor destroy relationships, according to Kent and Taylor (1998). Ovaitt (1995) and Mitra (1997) also argued that the internet in some cases can be the only way to reach some traditionally isolated groups and entire communities.

Paine (1995) raised the prospect of monitoring internet coverage in the same way that press coverage can be monitored. Pestana and Daniels (2011) described the changes over time. The first step was the measurement of outputs in traditional media ("one to many"). The second decade was the measurement of outputs and external data in traditional and digital media ("one to many") and the last decade (from 2005 till the present) is the measurement of both outputs and outcomes in traditional, digital and social media ("many to many"). This question of measurement raises the first research question: how can reactivity and dialogic communication be measured on corporate Facebook?

3.3.2 Stakeholders

From a stakeholder viewpoint, companies should try to achieve different goals according to the stakeholder groups. According to Guthrie *et al*. (2006), companies are expected to report to their stakeholders on their activities and this kind of organizational accountability is more than a simple economic or financial act. The term "accountability" was defined by Mulgan (1997) as the responsibility of performance from one party to another. An *et al*. (2011) suggest that accounting information disclosure can be considered accountability. Various authors (Deegan & Samkin, 2009; Gray *et al*., 1996) have also highlighted that, for example, the loyalty of stakeholders can be beneficial for the entrepreneur and this can be based on a good relationship. This study measures how companies communicate with their stakeholders (as if they are a single group) and the mood of this communication. Takagi *et al*. (2011) and Bollen *et al*. (2011) argued that the

stakeholders' mood is very important from the companies' viewpoint. These ideas raise the second and the third research questions: "How can stakeholder engagement be measured?" and "How can stakeholders' mood be measured on corporate Facebook?".

3.3.3 Social legitimacy and voluntary disclosure

Legitimacy theory suggests that a social contract exists between the company and society (Deegan, 2006; Deegan & Samkin, 2009). Society is a wider category than the stakeholders, because it contains entities who are not stakeholders of the company. So this means that a business should conduct its activities in a manner which is socially acceptable, not only following the expectations (for example) of the investors. This also requires continuous change from the company side to survive. From this viewpoint organizations should voluntarily report both financial and non-financial information according to the expectations of society (Pfeffer & Salancik, 1978). The banking sector was one of the first where the regulators required online transparency (Bonsón *et al*., 2007; Bonsón & Flores, 2011). This kind of financial and non-financial disclosure can also be called corporate social responsibility (CSR). Several authors (Claasen & Roloff, 2011; Garriga & Melé, 2004; Suchman, 1995) have linked CSR and legitimacy. According to Claasen and Roloff (2011), one of the ways to attain legitimacy can be by engaging in highly visible philanthropic activities and communicating them to a wide audience. This raises the fourth research question: "How can social legitimacy be measured on corporate Facebook?".

3.4 Corporate Facebook metrics

This section proposes a set of metrics answering the research questions based on the theories applied.

3.4.1 Reactivity, dialogues and stakeholder engagement

RQ1 is "How can reactivity and dialogic communication be measured on corporate Facebook?". Or in other words (RQ2), "How can the stakeholders' engagement be measured?". These two questions cover different aspects of the same problem based on different theories, but the same set of metrics can be used to provide an answer.

According to the amount of public quantitative information which is offered by Facebook, popularity, commitment and virality can be measured (as explained in Table 6) to offer a better view of reactivity, dialogues and stakeholder engagement. Popularity is measured by the "likes" on Facebook. Commitment refers to the number of "comments" and virality is measured by the "shares" on Facebook, according to the taxonomy selected for the research.

3.4.2 Stakeholders' mood

RQ3 is "How can the stakeholders' mood be measured on corporate Facebook?". In order to answer this research question the comments can be classified into three categories indicating the mood of stakeholders – positive, negative and neutral (Table 7) – within the framework of a qualitative examination. A growing body of literature shows the importance of the mood of stakeholders (Takagi *et al*., 2011; Bollen *et al*., 2011).

Name	Sign	Formula	Measures
Popularity	P1	Number of posts with likes / total posts	Percentage of the total posts that have been liked
	P2	Total likes / total number of posts	Average number of likes per post
	P3	(P2 / number of fans) * 1000	Popularity of messages within fans
Commitment	C1	Number of posts with comments / total posts	Percentage of the total posts that have been commented on
	C2	Total comments / total posts	Average number of comments per post
	C3	(C2 / number of fans) *1000	Commitment of fans
Virality	V1	Number of posts with shares / total posts	Percentage of the total posts that have been shared
	V2	Total shares / total posts	Average number of shares per post
	V3	(V2 / number of fans) *1000	Virality of messages among fans

Table 6: Measurement of reactivity, dialogic communication and stakeholder engagement

Name	Formula	Measures
Stakeholders' mood by comments	Comments with positive, negative and neutral mood	The ratio between the positive, negative and neutral moods expressed in comments.

Table 7: Measurement of stakeholders' mood

3.4.3 Social legitimacy and voluntary disclosure

RQ4 is "How can social legitimacy be measured on corporate Facebook?". For the purpose of answering this research question, again a qualitative analysis of content can be conducted among the posts, categorizing them into seven groups (Table 8). Content analysis is one of the most widely used techniques (Bonsón *et al*., 2008; Ettredge *et al*., 2001; Gallego-Alvarez *et al*., 2011) in studies that examine the information provided by businesses or institutions. This kind of analysis typically leads to a disclosure index (numerical indicator), which shows the quantity of information with the level of disclosure on the communication channel analyzed.

Name	Sign	Formula	Measures
Content Analysis	CSR1	No. of posts	Wall posts on the topic of environmental issues
	CSR2	No. of posts	Wall posts on the topic of social / human resources / career issues
	CSR3	No. of posts	Wall posts on the topic of financial reporting, financial transparency issues.
	CSR4	No. of posts	Wall posts on the topic of governance.
	Marketing	No. of posts	Wall posts on the topic of marketing / selling / products.
	CS	No. of posts	Wall posts on the topic of customer support / customer service.
	Other	No. of posts	Wall posts considered as others.

Table 8: Measurement of social legitimacy and voluntary disclosure

From the viewpoint of voluntary disclosure and legitimacy theory, the main focus must be on corporate social responsibility information disclosure. The Inter-American Development Bank

provides a definition: “CSR is a business approach that views respect for ethics, people, communities and the environment, as an integral strategy that increases value added and thus improves the competitive position of a firm”.

CSR information can be divided into four categories: environmental (CSR1); social (CSR2); financial (CSR3); and governance (CSR4). An analysis of content is needed and the following categories are proposed (beyond CSR) for the purpose of gaining a complex view: marketing; customer support/customer services (CS); and others.

3.5 Methodology and metrics validation

Three different stages were defined during the process. The first stage was to identify patterns by empirical experimentation observing 314 Eurostoxx companies over the years. The chosen set of companies covers 19 supersectors and 12 countries. This led to the creation of the proposed metrics. They were designed after reviewing more than a hundred active accounts on Facebook, paying special attention to the available public information. The goal was the creation of metrics that can be effective and available to everybody. This means that the basic variables are all public, so there is no need to be an administrator of the Facebook page examined. This feature makes the proposed metrics advantageous both to researchers and professionals.

At the second stage all the data was collected and examined for the purpose of validation. During the validation process 10 companies (Pirelli & C. SpA from Italy; Wartsila, Renault, ADP, and Biomerieux from France; BASF, Lufthansa, BMW, and Henkel from Germany; and Indra Sistemas from Spain) – chosen from a study by Bonsón and Ratkai (2011) covering the most active and engaged firms – were analyzed. The purpose was validation and familiarity with the values (average, minimum, maximum, etc.) of these metrics. The last 50 posts from the

company were considered for analysis. The companies on average needed 40 days to post 50 times on their wall, which shows the activity level of the channel. Channel activity (Bonsón & Flores, 2011; Bonsón *et al*., 2012) and the number of fans (Bonsón *et al*., 2012; Ragland, 2010) can be considered very basic variables of corporate Facebook. Day (1997) suggests that web presence is more important than service, access or content. As Mulvihill (2011) stated, fan growth is an important thing, but the real aim is to get more "impressions" within the Facebook news feed. As Stuart (2009) recognized, SNS are tools with high potential, although their impact and value are not easy to measure. This gap in the knowledge led us to the creation of the proposed metrics.

Finally at the third stage the necessary modifications were conducted to improve the metrics.

3.5.1 Reactivity, dialogues and stakeholder engagement

The feedback from stakeholders is valuable. According to Gorry and Westbrook (2011) some companies have already integrated feedback into their organizational processes. Examples include Ritz Carlton, Fiskars, Vaseline, Levi Strauss, Harley Davidson, Starbucks and Charles Schwab. Gorry and Westbrook (2011) found that as a business grows in size and complexity, its knowledge of its customers decreases.

Three metrics were used to measure the quantity of feedback from stakeholders: popularity; commitment; and virality. The term "virality" was created to show the effectiveness of viral messages on Facebook. Fortunately, there is already a tool to measure virality, which is the "share" button. It shows how many times a wall post was shared with someone. For the ten companies analyzed, 93 per cent of the wall posts were liked, 61 per cent were commented upon

and 34 per cent were shared. The average number of likes per post was more than 1,500. The average number of comments per post was 123, while the average number of shares per post was only 29 (Table 9).

It can be seen that the set of metrics of reactivity, dialogues and stakeholder engagement are valid. However, in the cases of P3, C3, and V3, multiplication by 1,000 was used in order to offer the possibility of a better comparison, as the original results were close to zero. (This necessary modification to improve the metrics reflects the 3rd stage of validation.).

	P_1	P_2	P_3
AVERAGE	0.93	1,646.02	2.05
MIN	0.70	3.22	0.72
MEDIAN	0.95	27.24	2.22
MAX	1.00	15,350.80	2.70
	C_1	**C_2**	**C_3**
AVERAGE	0.61	123.03	0.26
MIN	0.16	0.38	0.12
MEDIAN	0.62	3.14	0.24
MAX	1.00	1,106.80	0.49
	V_1	**V_2**	**V_3**
AVERAGE	0.34	28.56	0.09
MIN	0.04	0.06	0.01
MEDIAN	0.20	0.75	0.05
MAX	1.00	222.18	0.30

Table 9: Validation of the metrics of reactivity, dialogues and stakeholder engagement

3.5.2 Stakeholders' mood

The feedback from stakeholders can be analyzed not only quantitatively, but qualitatively as well. Negative conversations (also understood as negative feedback) are the main reasons why so many companies fear getting involved in social media (Ralphs, 2011). After deep analysis of ten firms, the results do not confirm the fear of negative feedback. On average only 7 per cent of the comments were negative. Johnson (2012) proposes that individuals can have a negative impact on reputation. However the fear of negative feedback is not justified. On average 93 per cent of the comments were mainly positive (65 per cent positive and 28 per cent neutral).

3.5.3 Social legitimacy and voluntary disclosure

The content analysis (Table 10) shows that on average 35 per cent of the wall posts were related to corporate social responsibility. This result is lower than their use for marketing purposes, but an encouraging number of CSR posts can be expected to help gain social legitimacy.

The disclosure index of the marketing and selling activity types of content was 41 per cent, which shows the highest ratio. Remarkably the smallest ratio of the wall posts on average was for customer service (3 per cent). On average, 21 per cent of posts fell into the category of "other". As on average 79 per cent of the content can be classified by the proposed categories (and only 21 per cent falls into the "other" category), this classification can therefore be accepted as valid.

	Content types						
	Corporate Social Responisibility						
	CSR1	CSR2	CSR3	CSR4	Marketing	CS	Others
AV.	0.04	0.25	0.01	0.05	0.41	0.03	0.21
MIN	0.00	0.00	0.00	0.00	0.10	0.00	0.00
MEDIAN	0.02	0.17	0.00	0.04	0.21	0.00	0.09
MAX	0.26	0.66	0.06	0.20	1.00	0.16	0.90

Table 10: Validation of content analysis

3.6 Discussion and implications

This chapter offers some practical implications for practitioners and researchers alike for implications of the proposed corporate Facebook metrics. The benefits of this study for practitioners are the availability of: monitoring competitors' practices; assessing the performance of community managers; assessing stakeholders' participation and their opinions; assessing marketing strategies on Facebook and other SNS where the metrics are adaptable; assessing communication strategies; and assessing online reputation of the company or products and services.

For researchers these metrics can contribute to theory validations and interpretations (Table 11). First for dialogic theory (Habermas, 1990; Heath *et al*., 2006; Kent & Taylor, 1998; Pearson, 1989; Pestana & Daniels, 2011; Pettigrew & Reber, 2010; Roper, 2005) measuring popularity, commitment and virality is useful to examine the reactivity and dialogues as the proposed metrics can be considered to indicate levels of engagement of the dialogue. Second for stakeholders' theory (Deegan & Samkin, 2009; Gray *et al*., 1996; Guthrie *et al*., 2006) in addition

to engagement level metrics, the mood of stakeholders is also an interesting metric, because the theory states that a good relationship is essential in order to achieve different corporate goals. The engagement level was also measured by popularity, commitment and virality as for dialogues. Third from a legitimacy theory perspective (Claasen & Roloff, 2011; Deegan, 2006; Deegan & Samkin, 2009) voluntary information disclosure (An *et al*., 2011; Mulgan, 1997; Pfeffer & Salancik, 1978) can help a company to gain more transparency (Bonsón *et al*., 2007; Bonsón & Flores, 2011; Theunissen & Noordin, 2012) and this way more trust both from society and stakeholders.

RQ	What can be measured?	Relational theory	Metrics to measure
1	Reactivity and dialogic communication	Dialogic theory	Popularity (P1, P2, P3); Commitment (C1, C2, C3); Virality (V1, V2, V3)
2	Stakeholder engagement	Stakeholder theory	Popularity (P1, P2, P3); Commitment (C1, C2, C3); Virality (V1, V2, V3)
3	Stakeholders' mood	Stakeholder theory	Mood of comments (positive, negative, neutral)
4	Voluntary disclosure	Legitimacy theory	Content analysis (highlight on CSR)

Table 11: Review of research questions

The suggested metrics can also be applied in an evolutionary-historical analysis, for example trying to confirm whether this new multidisciplinary research field behaves according to the expectations of, for example, the follower effect (Lyabert, 2002). Furthermore these kinds of analysis can lead the researchers to predict some general corporate communication trends of the

future and compare the behavior of different markets based on experimental studies using the suggested metrics.

Actual comparisons with other studies in most cases are difficult to conduct, because of the previous lack of measurement tools. However in some special cases similar research was found. These prior studies are compared in the following subsections (3.6.1, 3.6.2, 3.6.3) of the chapter respectively to the implicated theories.

3.6.1 Reactivity, dialogues and stakeholder engagement

Heath *et al*. (2006) suggest that all dialogue has common elements: including as many stakeholders as possible; engaging them as human beings and not as representatives of stakeholders; focusing on listening and answering; and constructing an environment/platform that allows stakeholders to speak sincerely.

These kinds of dialogues are considered by various authors to represent a risk or danger (Heath *et al*., 2006; Leitch & Neilson, 2001; Saunders, 1999). Mersham *et al*. (2009) stated that losing control is not something that managers are willing to do, and yet there is a requirement to establish a dialogue. According to Theunissen and Noordin (2012) transparency and trust are essential for effective dialogue, and organizations should understand these features of dialogical communication. The likes, comments and shares on Facebook can be considered as tools for building dialogue. As seen earlier, the number of likes is higher than the number of comments and the number of shares.

This result supports the findings of another study by Bonsón and Ratkai (2011). The reason may be that it is faster and easier to press the “like” button than to comment on something. It is obvious that activating the audience is a difficult part of corporate dialogue. This background

highlights the reason for the close to zero results for the P3, C3, and V3 metrics – which measured the active population of the audience regarding popularity, commitment and virality – forcing us to change the formula with a multiplication by 1,000.

3.6.2 Stakeholders' mood

A study by Cone (2008) shows that 44 per cent of those interviewed agreed that the role of companies in SNS is to collect feedback. It was found that the stakeholders mainly just express positive or neutral feelings towards the company. Negative comments were scarcely found. The research of Shu and Chuang (2011) also found that people who use these sites express positive attitudes about them, which our results can confirm. In our sample the most criticized company was Indra Sistemas with 21 per cent negative comments although the majority of these comments came from one person (possibly an ex-employee). Of course clever companies can learn from negative feedback, as Gap did in 2010. They wanted to launch a new logo for the brand, but after the discussions on their corporate Facebook page they decided to bring back the old logo (Ralphs, 2011). They posted that they had heard loud and clear that the customers did not like the new logo, so they brought back the Blue Box immediately.

3.6.3 Social legitimacy and voluntary disclosure

The topic of communication was analyzed in order to identify whether it could be considered as financial and non-financial voluntary disclosure. For this reason, besides the usual content analysis (marketing purposes, etc.), corporate social responsibility was also addressed as a topic. According to the ISO 26000 standard, CSR is the responsibility of an organization for the impact of its decisions and activities on society and the environment, through transparent and

ethical behavior (European Commission, 2009). So CSR was considered as voluntary disclosure by a company in order to gain social legitimacy.

The disclosure index of CSR is 35 per cent, which means that 35 per cent of posts can be considered somehow related to corporate social responsibility. The ratio is good, especially if the comparison is made with customer support. Another study (Bonsón & Ratkai, 2011) also reported on the usage of CSR of around 40 per cent, which was also confirmed with our results. In the case of customer support, a higher disclosure index was expected. Cone (2008) found that 43 per cent of those interviewed indicated virtual customer service as the role of companies within SNS. In our opinion telecommunications companies use SNS for customer support more frequently simply because their products and services are easily adaptable to offer a virtual service. Telefónica (2010), for example, reported that SNS have provided considerable opportunities to get closer to stakeholders and listen to their needs and expectations.

A remarkably high ratio of content fell into the category of "other". In some cases these posts were about events on the Facebook page or a poll (not related to any of the mentioned contents), or were just simply outside the rest of the categories. So as a result, in the future a better classification can be developed.

3.7 Conclusion

This, 3rd chapter, begins with a search for practical solutions of corporate Facebook performance measurement (after noticing a gap in the knowledge about online corporate communication measurement on Facebook) offering an overlap between professional and academic fields. During this process it became clear to us that we have to design the metrics in a way that makes them suitable for everyone who is interested in online corporate communication

and reputation. The most important contribution is proposing the set of validated metrics based on theories, which also can contribute to theory validation and interpretation.

The proposed metrics were able to measure the reactivity and dialogic communication with stakeholders and their engagement, the mood of stakeholders and the messages from the company for the purpose of assessing social legitimacy by means of voluntary CSR disclosure on corporate Facebook. All the proposed metrics could be adapted for other SNSs such as Google+, by conducting slight modifications where necessary. For example in case of Google+ the term "likes" is equivalent to "+1". And (apart from this little difference) the other metrics are directly applicable.

The quantitative information shows that the posts are more liked (93 %), than commented on (61 %) or shared (34 %). Future research is needed to see why this happens. A possible explanation may be found in the difficulty in encouraging the participation and engagement of stakeholders. Although, it must be admitted that those stakeholders who by means of liking, commenting or sharing are participated, made a necessary effort in order to express their opinions. Generally speaking it takes less energy and time to click on the like button than to organize the thoughts and composite sentences from them.

The qualitative information shows that fear from negative feedback does not seem to be borne out since 93 % of the comments were mainly positive. The content analysis shows that communication for marketing purposes (41 %) comprises the biggest part, but CSR information (35 %) also has a significant role. So companies do seem to care about social legitimacy and, according to the so-called "follower effect" a greater importance for CSR information within communication on SNS can be expected.

Limitations can be found within the sample. The ten representative companies were adequate for the validation process, but results may vary from the possible results using a bigger or otherwise different sample. Another limitation is the application of the proposed popularity, commitment and virality metrics in case of other SNS. In case of Google+, no modification is needed in the metrics, but a few special cases may emerge when a variation of these metrics is needed (for example Twitter, LinkedIn, YouTube). It could be useful to extend the research to these online stakeholder engagement sites as well.

In future research the identification of different stakeholder groups and the canalization of their complex relationships can also be taken into consideration. Effort should be made to include Facebook events and Facebook polls in the content analysis process. And a media type analysis could also be undertaken. Many of these avenues are addressed in the next 4th and 5th chapters.

Further reading

Inter-American Development Bank (2001), "MIF cluster action plan promoting competitiveness through corporate social responsibility (CSR)", available at: http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUMI'843739 [Last accessed 28 January 2013].

ISO 26000:2010 (2010). See more at www.iso.org/iso/home/standards/iso26000.htm

CHAPTER 4

WESTERN EUROPEAN MUNICIPALITIES' FACEBOOK ACTIVITY AND CITIZENS' ENGAGEMENT

4.1 Introduction

The Internet now serves as a major new linkage between society and government (Thomas & Streib, 2005) and has emerged as a driving factor for citizen participation initiatives because of its potential for informing, educating and empowering citizens. However, previous studies have shown that the use of the Internet in the public sector for external purposes has been directed predominantly at the provision of public services and information to citizens and other stakeholders, neglecting the citizen participation dimension (Brainard & McNutt, 2010; Coursey & Norris, 2008; Musso *et al.*, 2000; Norris & Reddick, 2013; Torres *et al.*, 2006).

The focus on individual citizen engagement in public life is part of a wider trend in public administration toward reimagining the role of the public administrator. The role of the public administrator is shifting from that of a neutral expert toward becoming a facilitator of individual and grassroots participation and engagement (Brainard & McNutt, 2010). In this scenario, public administrators create opportunities to engage with citizens and use those opportunities to educate, organize, and mobilize citizens to participate in a larger public sphere and act as advocates on their own behalf. On the other hand, it also means that public administrators should engage with citizens to identify and define problems in collaboration, and implement solutions for the problems detected. As a result of this process, government-to-citizen relationships are expected to become more deliberative and dialogic rather than regulative and authority based (Brainard & McNutt, 2010). In this context, the advent and rapid diffusion of Internet-related applications have been heralded as having the potential for increased democratic engagement, increased access and greater opportunities to reduce the democratic deficit.

E-government is a "flagship" of both the European Union (EU) and the United States of America, and it is causing an overall change in governmental communication and openness. Recent developments on e-government include the use of social media tools (Bonsón *et al.*, 2012; Mergel & Bretschneider, 2013; Snead, 2013; Zavattaro, 2013). Social network sites allow people to reach a common goal via an online interactive collaboration. Social media (SM) "are technologies that facilitate social interaction, make possible collaboration, and enable deliberation across stakeholders" (Bryer & Zavattaro, 2011, p. 327). The most popular examples of SM are blogs, Twitter (microblog), Youtube, Facebook, LinkedIn, etc. On these sites people usually share their opinions, comment on the news and so on. Besides private use for leisure purposes, SM can be used to support or criticize companies, products, and public or private services.

The popularity of SM has not only reached the world of business, but also governments and municipalities. With the rapid explosion of SM, it is not surprising that public organizations are following the trend and deploying sites to reach people where they are. As of August 2012, 66% of US adults online use Facebook, 16% use Twitter, and 20% use LinkedIn (Pew Internet Research Centre, 2013a). Nowadays, moving toward the network society and engaging with constituents is recognized as a critical element of political legitimacy (Schellong & Girrger, 2010). With strategic planning, effective management, and realistic expectations, social computing can drive the next stage of e-government growth and interactivity (Joseph, 2012). However, according to Zavattaro (2013), more research is needed to investigate the role that SM technologies will play in the future of public administration.

In this study, we have focused on Facebook use by local governments and citizens' interactions. Facebook has been chosen from SM because of its popularity among citizens and SM users. Facebook is on the first place among SM sites according to Alexa rankings (Alexa.com, 2014). Furthermore, Facebook has the highest levels of engagement among SM users, with 63% of Facebook users visiting the site at least once a day and 40% doing so multiple times throughout the day (Pew Internet Research Center, 2013b). The use of Facebook to enable contact among citizens can be characterized as a normal practice. So, among all the available SM, Facebook offers the clearest possibilities for more sustained interaction between citizens and their local authority (Ellison & Hardey, 2013). Municipalities play an important role in the everyday lives of citizens, both in the administrative and service delivery fields (Pina & Torres, 2001) as well as in the sphere of democratic participation (IDEA, 2001; Musso *et al.*, 2000). Local government is where "grassroots" initiatives and local people intersect most directly with governance and the state (Gaventa & Valderrama, 1999), and where the current process for strengthening participatory democracy is most evident (Licha, 2002). This is why it is important to understand how municipalities use SM in order to promote citizen engagement.

Most research on SM use by local governments has been carried out in the US, where 22.1% of Facebook visitors are located according to Alexa rankings. The use of Facebook in European countries is under investigated, in spite of the fact that 5 out of the top 10 countries in the number of visitors to Facebook are Western EU countries (Germany, United Kingdom, Italy,

France and Spain) and that 10 of the EU countries analyzed in this study represent at least 17.8% of Facebook visitors[7].

Facebook offers local governments the possibility to know their citizens "personally." A two-way conversation can be maintained, whereas traditional media such as television, radio and print media only offer the possibility of one-way communication. Through dialogue, realized on the Internet, municipalities can derive many benefits, collecting feedback, ideas and opinions which help to improve public policies and public services. On the one hand, municipalities can obtain useful advice and gain more trust from citizens. And on the other hand, thanks to the direct interaction, citizens can acquire a deeper knowledge about the projects of the local government.

Despite the growing discussion about SM technologies (whether they have the potential to enhance citizen engagement), there is still little evidence on SM adoption and usage. Meijer *et al.* (2012) discussed incentives for citizens as key components of success. A study (Purser, 2012), carried out in Australia, shows that although most local governments use SM in some way, the majority consider that they have just started to use these channels and they are in the initial stages of gaining experience. Only a quarter of them have a formal evaluation process in place to measure the effectiveness of the SM they use. Similarly, recent research in the US (Halpern & Katz, 2012; Mossberger *et al.*, 2013; Norris & Reddick, 2013), shows that the use of SM by US municipalities is mostly one-way communication (push strategies) from the governments outward.

[7] *According to Alexa rankings (Alexa.com, 2014), the percentage of Facebook visitors that comes from Western European countries is as follows: Belgium (0.7%), France (2.6%), Germany (3.2%), Greece (0.8%), Italy (2.9%), Netherlands (1%), Portugal (0.5%), Sweden (0.5%), Spain (2.4) and the UK (3.2%). No data are provided for Austria, Denmark, Finland, Ireland and Luxembourg, which are the smallest countries in our sample.*

Therefore, after identifying this gap in the knowledge, this study offers ways of measurement for activity and engagement on Facebook. In this context, the objective of this paper is to provide an initial assessment of Facebook use by Western European municipalities in order to answer the following research questions: (1) How do municipalities in Western Europe use Facebook as a communication and engagement channel? (2) How are citizens engaging with their local government by using Facebook? (3) What factors influence activity levels by local governments and engagement levels by citizens? The findings will help to determine whether SM are indeed increasing citizen participation and whether it is possible to reach any conclusions for future developments in Facebook use by local governments.

4.2 Government–citizen collaboration: The role of social media and related challenges

The use of SM tools has favored the emergence of citizen-created content that enriches socio-political debates, increasing the diversity of opinions expressed, and that provides the free flow of information and self-expression (Bonsón *et al.*, 2012). SM provide new platforms where communities can easily be reached and where stakeholders can express their preferences on an ongoing basis. Interactions on SM platforms are bidirectional, affording frequent communication and feedback between government representatives and the public. The Obama administration, with the 2009 Open Government Initiative, has led the way in this regard, placing great emphasis on using SM to increase transparency, public participation in government, and improve public access to government information (Snead, 2013).

According to Bonsón *et al.* (2012), the main benefits that SM offer to public sector entities are the enhancement of transparency and citizen participation. These benefits can be

obtained by increasing government's visibility, sharing data and insights into decision-making processes in order to become more transparent, becoming more engaging, open and participatory, and offering the possibility to all stakeholders to become involved in collaborative processes (Mergel & Bretschneider, 2013). SM offer chances for coproduction, crowd-sourcing solutions, transparency and accountability, and real-time information updates (Bertot *et al.*, 2010).

One of the main issues for the government-to-citizen relationship is trust, which can be gained by promoting transparent and effective activities. Thus, SM use in the public sector must be understood as part of a larger, ongoing paradigmatic shift towards greater citizen empowerment and participation through government transparency, accountability, and open collaboration. For Snead (2013), the adoption of SM by public sector entities is a reaction to declining citizen trust and confidence in government (Tolbert & Mossberger, 2006), and also declining citizen engagement with government activities and democratic processes. In this context, SM offer an opportunity for direct interaction with an audience and provide an innovative channel for participation, information dissemination, and education that a traditional, static website cannot provide (Mergel & Bretschneider, 2013). SM applications offer public sector entities the opportunity to integrate information and opinions in the policy making process in several innovative ways. Furthermore, they confer increased transparency through information sharing and collaboration with the public in preparing decisions and/or searching for solutions to government problems (Mergel, 2013).

However, in spite of all these possible positive benefits, we have to bear in mind that not everything is positive with technology (Farazmand, 2012; Joseph, 2012). According to Farazmand (2012, p. 489) "technology is both enabler and destroyer, a tool both of opportunity

and repression, freedom and tyranny, democracy and despotism, and progress and degeneration." Furthermore, both SM and Facebook can also be used in the same way as a traditional website, primarily for pushing information in a broadcasting mode without allowing direct interaction of the parties.

Meijer *et al.* (2012) discuss three key success factors for the realization of Government 2.0: leadership in government, incentives for citizens, and mutual trust. Leadership in government is crucial since governments need to be willing to shift their interaction patterns from formal interactions with representatives of interest groups to informal information exchanges with individuals in networks. Incentives for citizens are key components as there are government initiatives that have not been taken up by citizens and thus have had no further effect. Thus, citizens' willingness to participate in these networks is crucial. Finally, mutual trust needs to be established in these government-to-citizen interactions to make the networks viable and robust.

Mergel (2013) has distinguished three SM tactics for public sector entities based on their existing communication and interaction style: 1) a push strategy that represents formal government information on SM as additional channels of communication; 2) a pull strategy that engages and includes information from stakeholders; 3) a networking strategy that includes both push and pull activities, with a highly interactive and bidirectional responsiveness that produces reciprocal feedback cycles. The use of SM by local governments means that they acknowledge that citizens are active agents of local democracy. The citizens are sources of ideas and initiatives that provide a mutual enrichment (Michel, 2005) and municipalities need to answer the citizens' demand of greater transparency and participation.

Additionally, Linders (2012) defines the following typology for citizen e-participation: (1) citizen sourcing, (2) government as a platform, and (3) do-it-yourself government. These categories reflect to the models for citizen co-production in the age of SM: citizen to government (C2G), government to citizen (G2C) and C2C (citizen to citizen), respectively. C2G is mainly about consultation and ideation, where citizens are enabled to share their opinions with government. G2C is mainly about informing and nudging, where citizens are equipped with data to make informed decisions. Lastly, C2C is about self-organization. This paper analyzes citizen e-participation initiatives in the age of SM by means of C2G and G2C relationships on Facebook, that can be interpreted based on the SM tactics proposed by Mergel (2013). In this context, the role of SM in municipalities can be analyzed in relation to two different dimensions as illustrated in Figure 5.

The first dimension places greater emphasis on local governments and their strategies (push activities), activity levels, online offers, goals, etc. The second dimension is focused on the stakeholders/citizens (pull activities), their activities and engagement levels, communication style, mood, satisfaction, and so on.

Obviously, local governments and their stakeholders do not necessarily have the same interests when logging into the different SM platforms. As the above literature review indicates, local governments can purse three different strategies: push, pull or networking (see Mergel, 2013). Furthermore, as indicated by Meijer *et al.* (2012), citizens' willingness to participate in these networks is crucial.

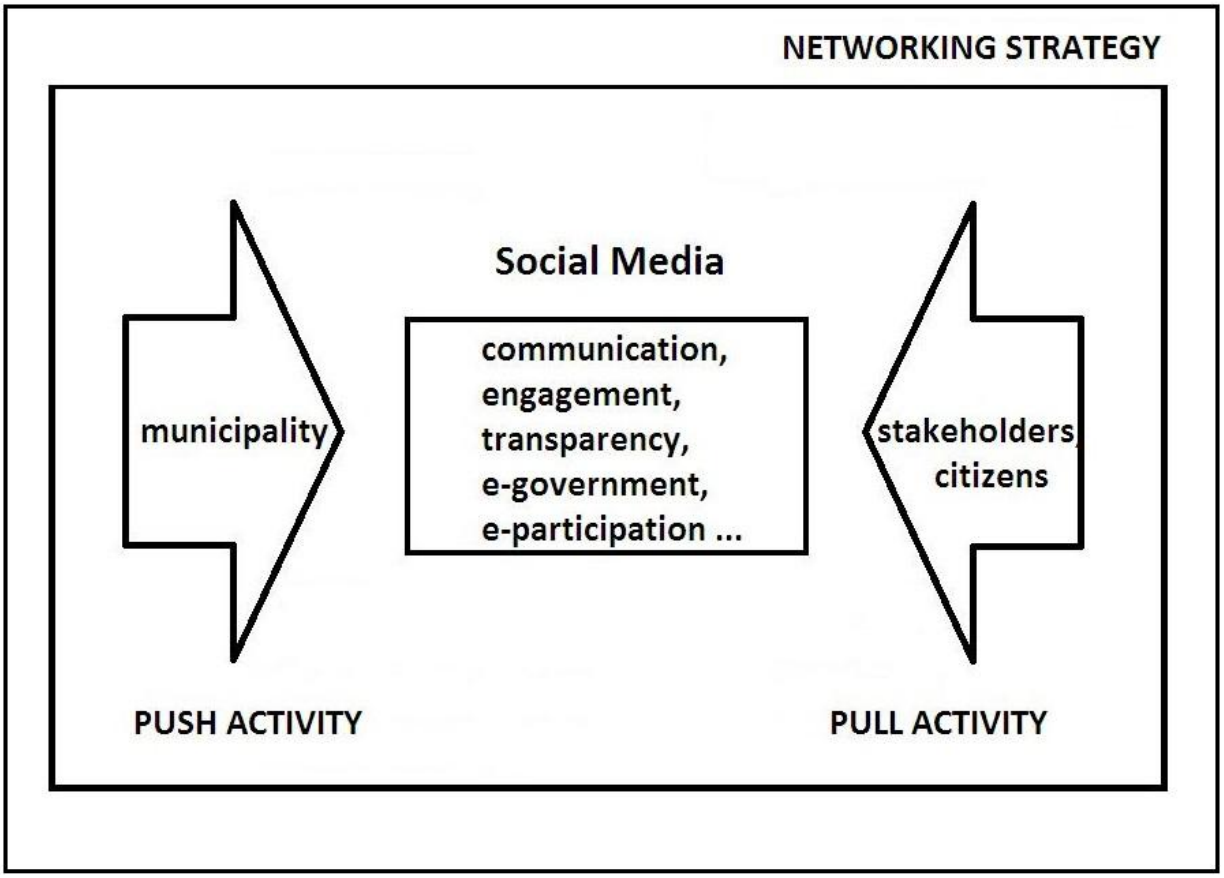

Figure 5. The role of SM in municipalities as regards G2C and C2G relationships.

Different types of tensions can arise in the G2C/C2G relationships mediated by SM. First, local governments may not have the necessary administrative capacity to engage on a networking strategy and this may clash with citizen demand. Second, governments may be especially interested in engaging with citizens and knowing their opinions on a specific topic, but perhaps citizens do not seem to be responsive enough, which may be disappointing for the local government. Finally, if both local governments and citizens engage in a networking activity, citizens need to know whether their contributions have been taken into account or, at least, that citizen participation is not a "hollow exercise" (Feeney & Welch, 2012; Nam, 2012). Just as use

begets further use, failure to deliver the benefits deemed essential by citizens can reinforce reluctance to engage (Kolsaker & Lee-Kelley, 2008).

4.3 Sample, research design and methods

4.3.1 Sample

The sample comprises the first 15 member countries of the EU represented by the five largest cities of each; thus, a total of 75 EU local governments have been analyzed (see Appendix A). All the 28 member countries of the EU are not covered in this study for two main reasons. First, because the majority of the 13 more recent member countries are Eastern European and they have many differences (political, economic and sociological) with Western European countries, as they were under the political and administrative influence of the USSR before joining to the EU. Second, SM use among the 13 last members of the EU is lower than in the first 15 member countries (38% of Internet users versus 45%, according to Eurostat[8]). Furthermore, as said before, when looking at the Alexa rankings, none of the 13 last members of the EU are included in the top ten countries in the number of visitors to Facebook. Of the 13 last member countries of the EU not analyzed in this paper, only data of the percentage of Facebook visitors coming from 2 out of these 13 countries is provided: Poland (1.2%) and Romania (0.6%).

Larger-sized local governments were chosen because they are usually more innovative in the adoption of new technologies (Rogers, 1983) and they have lower relative costs for the implementation of the new Web 2.0 tools (Bonsón *et al.*, 2012). Furthermore, larger-sized local governments have greater disclosure needs since the distance between the governors and the

[8] *Social media use by citizens: Percentage of individuals that have used the Internet, in the last 3 months, for posting messages to social media sites (2012). Available at: http://ec.europa.eu/eurostat [Last accessed 24 April 2014]*.

governed is greater. SM are particularly effective in these circumstances, as information can be efficiently disseminated to a large, dispersed audience, providing increasing opportunities for citizen participation. A larger group of potential users usually implies more pluralistic demands and expectations for information and services, which leads to more pressure for innovative ideas and programs to address different needs in a community (Ho & Ni, 2004). Lastly, larger cities have stronger incentives to enhance their reputation and public image as they are more publicly visible.

4.3.2. Research design and methods

The observation of the 75 local governments was carried out in October 2012 with the goal of investigating the research questions presented in the introduction section.

In order to answer the first research question, the use of Facebook by each municipality was examined by applying the same method in all cases. First of all, the official website of the municipality was verified by checking for a direct link to the Facebook platform. If a link was found, the linked platform was accepted as the official one. For the rest of the cases, the presence of the municipality on this platform was checked by using its official name, the link to its official website and/or the official e-mail address. A binary code (1/0) was applied to register whether a municipality had an official Facebook account or not.

Data on municipalities' activity and the number of fans were collected by using observational methods for each official Facebook account. Channel activity was calculated according to the number of posts by municipality per working day. So this figure was obtained by counting the total number of posts in the examined month and dividing the total by the number of working days in each month. The data about the number of fans is publicly available. This

number refers to the amount of people who have liked the examined page. Therefore, the number of fans reflects the audience of the channel.

Different measures of engagement with social media platforms have been proposed by previous research. Paek *et al.* (2013) measured engagement with items on a Likert scale adapted from a prior study of Calder *et al.* (2009). The only pitfall of this kind of measurement is that surveys are needed in order to obtain the necessary data on engagement. Bonsón and Ratkai (2013) proposed a set of metrics which are also valid to identify the dimensions of engagement with social media platforms by using publicly available data. Therefore, in this research, three of the Facebook corporate metrics (P3, C3, V3) defined by Bonsón and Ratkai (2013) were adapted to measure citizen engagement (E). Each of these metrics reflects different dimensions and levels of engagement (see Table 12). P3 measures the popularity of the Facebook account, taking into account the average number of likes per post. C3 measures the level of commitment from the fans, taking into account the average number of comments per post. V3 measures the virality of the Facebook account, taking into account the average number of shares per post. The metrics of P3, C3 and V3 were chosen to calculate the aggregated index of engagement (E) because they are independent from the size of the audience (since they have been divided by the number of fans) and, therefore, they seem to be the most representative ones in terms of measuring citizen engagement. In the rest of this study we will refer to these metrics as popularity (P3), commitment (C3), virality (V3) and engagement (E), respectively.

Popularity	P1	Number of posts liked/total posts	Percentage of posts that have been liked
	P2	Total likes/total number of posts	Average number of likes per post
	P3	(P2/number of fans) x 1000	Average number of likes per post per 1000 fans
Commitment	C1	Number of posts commented/total posts	Percentage of posts that have been commented
	C2	Total comments/total posts	Average number of comments per post
	C3	(C2/number of fans) x 1000	Average number of comments per post per 1000 fans
Virality	V1	Number of posts shared/total posts	Percentage of posts that have been shared
	V2	Total shares/total posts	Average number of shares per post
	V3	(V2/number of fans) x 1000	Average number of shares per post per 1000 fans
Engagement	E	P3+C3+V3	Stakeholder engagement index

Table 12: Metrics for stakeholder engagement (Bonsón & Ratkai, 2013)

Pearson correlations (among the activity and engagement variables) were computed in order to see whether there is a relationship between municipalities' channel activity and citizens' engagement. Finally, in order to analyze what factors influence activity levels by local governments and engagement levels by citizens, univariate analysis was used. We propose a few possible independent variables (see Appendix B) in order to study the relationship with Facebook activity and engagement levels and to identify possible trends.

Several studies have analyzed the relationships between municipality characteristics and levels of development of e-government (Ho & Ni, 2004; Schedler & Summermatter, 2007; Pina

et al., 2009, 2010), e-participation (García-Sánchez *et al.*, 2011; Royo *et al.*, 2014) and SM use by local governments (Bonsón *et al*., 2012). Local-level characteristics are the dominant drivers of cities' decisions to commit to citizen engagement and e-participation. However, the identification of local factors that might promote Facebook activity and engagement levels by citizens is a complex task and the lack of appropriate and robust data becomes a challenge, especially in studies covering different countries, such as this one. Research on transparent and open government usually points to two critical success factors (Bertot *et al.*, 2010): a culture of transparency embedded within the governance system and a transparency "readiness" factor -that is, factors such as technology penetration, the level of technological capabilities of government agencies, and the social and technology readiness of the populace. Based on previous studies, and the limited data available, the chosen explanatory variables refer to (1) municipality characteristics, (2) Facebook page metrics, and (3) the technological readiness of the population.

Hence, the chosen municipality characteristics are: (1) if the municipality belongs to a northern or southern country *(SOUTH1)*[9], coding with dummy variables where 1 means south and 0 means north; (2) the number of municipality inhabitants *(INHAB)*; (3) overall level of development of the local government website *(E-GOV OFFER)*; and (4) the level of adoption of Web 2.0 and SM tools by the local government *(E-GOV 2.0)*. The chosen Facebook metrics are:

[9] *Western European countries were classified into northern and southern ones (European Institute, 2012). In our sample, the northern countries are the Netherlands, Germany, Austria, Luxembourg, Finland, Denmark, France, Belgium, the United Kingdom, Sweden, and Ireland. The southern countries are Italy, Spain, Portugal, and Greece. This distinction can be understood as a proxy of the culture of transparency and participation embedded within the governance system (Royo et al., 2014). Furthermore, the present financial, economic and social crises have had a greater impact in southern European countries than in northern Europe. In this study, this north-south division is analyzed in order to establish whether it has an impact on Facebook usage at local level.*

(1) activity *(ACT)*; (2) engagement *(E)*; (3) the audience that is the number of Facebook page fans *(FANS)*. The variables selected to measure the technological readiness of the population are as follows: (1) Internet penetration rate *(INTERNET)*; (2) e-government use by citizens *(E-GOV DEMAND)*; (3) SM use by citizens *(SM DEMAND)*.

The univariate analysis is based on Pearson correlations between the continuous independent variables (*INHAB, E-GOV OFFER, E-GOV 2.0, FANS, INTERNET, E-GOV DEMAND,* and *SM DEMAND*) and the activity and engagement variables (*ACT, P3, C3, V3* and *E*), and the t-test of difference of the means for the dichotomous nominal independent variable (*SOUTH1*).

4.4 Analysis and results

Almost three in four (73%) of the analyzed European municipalities had an official Facebook page by October 2012. Table 13 reports on Facebook activity levels and number of fans among Western EU local governments. On average the municipalities posted 2.5 times per working day, but as indicated by the *Maximum*, *Minimum*, and *Standard Deviation* figures, high levels of diversity in the average number of posts have been found.

Considering the audience, the average number of fans is around 74,000, but high levels of heterogeneity also exist (the maximum number of fans is almost 2 million whereas the minimum is 77). This is mainly due to the presence of some northern cities with an extremely high number of fans (especially in Paris and four out of the five German cities). So, on average, the stakeholders'/citizens' basis of communication is larger in northern than in southern municipalities (98,523 versus 14,258 average number of fans, respectively).

	Activity	Fans
Mean	2.5075	74,007
Median	1.8261	2,322
Maximum	21.6087	1,957,191
Minimum	0	77
Std. Dev.	3.1914	287,572
N= 55		

Table 13: Municipalities' activity and audience (fans) on Facebook

In Table 14 the Facebook corporate metrics of popularity, commitment and virality used to construct the engagement index can be found. As can be seen, the average value of popularity (6.3857) is significantly higher than commitment (0.9656) and virality (1.0149). Again, high levels of diversity in the popularity, commitment and virality metrics have been found, as the high standard deviation figures show. This is mainly due to the presence of extremely high engagement metrics in some southern cities (especially Amadora in commitment, and Milan in virality). The statistics of the elaborated index of engagement (E) seem to confirm the existence of high levels of heterogeneity as regards citizen engagement on local government official Facebook pages, with a mean value of 8.3662, a median of 3.3347, and a high standard deviation (12.1470).

	Popularity (P3)	Commitment (C3)	Virality (V3)	Engagement (E)
Mean	6.3857	0.9656	1.0149	8.3662
Median	2.5633	0.2377	0.5000	3.3347
Maximum	60.3893	19.4007	9.9917	62.9581
Minimum	0	0	0	0
Std. Dev.	10.5956	2.7416	1.7127	12.1470

N = 55

Table 14: Facebook metrics of popularity, commitment, virality to calculate engagement

The complete set of metrics related to commitment (C1, C2, C3), popularity (P1, P2, P3) and virality (V1, V2, V3) is provided in Table 15, offering a more detailed overview of the results. As can be seen, liking is the most common activity performed by citizens. The percentage of the posts that were liked (P1) was 81%, whereas the average number of likes per post (P2) was 244.

	P1	P2	P3	C1	C2	C3	V1	V2	V3
Mean	0.8076	244.164	6.385	0.4176	10.410	0.965	0.4864	37.0141	1.0149
Median	0.8888	8.111	2.563	0.375	1.444	0.237	0.3720	1.3174	0.5000
Maximum	1	5540	60.389	1	179.428	19.400	3.6923	978.648	9.9917
Minimum	0	0	0	0	0	0	0	0	0
Std. Dev.	0.2516	886.67	10.595	0.3087	30.682	2.741	0.5466	148.144	1.7126

N = 55

Table 15: Popularity (P1, P2, P3), commitment (C1, C2, C3) and virality (V1, V2, V3)

Commenting on posts requires a higher level of engagement from citizens, and this activity was less common among the users of Western European local government official Facebook pages. The percentage of posts that received comments (C2) was 42%. However, the average number of comments per post (C2) was 10. The percentage of shared posts (V1) was 49%, and the average number of shares per post (V2) was 37.

Table 16 presents the results of the correlation analyses among the activity and engagement variables. As can be seen, none of the correlations was found to be significant (they range from -0.055 to -0.213). These results indicate no relationship between municipalities' levels of activity and engagement levels by citizens. Therefore, more frequent posting or raising the activity of a channel is not necessarily related to a higher level of activity on the part of citizens and consequently a higher engagement level.

Engagement levels	Activity
P3	-0.204
C3	-0.120
V3	-0.055
E	-0.213

Note. None of the correlations is significant at the 10%, 5% or 1%.

Table 16: Pearson correlations among activity and engagement levels

In order to analyze what factors influence activity levels by local governments and engagement levels by citizens, univariate analysis was used. Table 17 presents the results of the correlation analyses among the continuous independent variables and the activity and engagement variables. As can be seen, all the correlations were very low, but with some

significant correlations regarding activity levels. The size of the municipality (measured by the number of inhabitants, with a 0.275** correlation level) seems to be related to the level of activity of the local government in Facebook. So municipalities larger in population seem to be more active than smaller ones. Other significant correlations could be found (but with a negative sign), indicating that the technological readiness of the population in the country (Internet: -0.310**, E-gov demand: -0.391***, SM demand: -0.370***) was negatively correlated with Facebook activity by local governments, which is consistent with the higher activity levels in southern European countries (as Table 18 shows), where Internet penetration, e-government and SM use by citizens is generally lower (see Appendix B). None of the variables considered were useful in terms of explaining citizens' engagement levels. Interestingly, the higher number of fans was not correlated with higher levels of engagement by citizens (-0.128).

	Activity	P3	C3	V3	E
Ln Inhab	0.275**	-0.088	-0.120	0.037	-0.098
E-gov offer	-0.035	0.032	-0.074	-0.022	0.008
E-gov 2.0	-0.068	-0.022	-0.172	-0.170	-0.082
Fans	0.016	0.110	0.083	0.098	0.128
Internet	-0.310**	0.084	-0.197	-0.152	0.007
E-gov demand	-0.391***	0.109	-0.117	-0.151	0.048
SM demand	-0.370***	0.158	0.055	-0.189	0.124

Note. *** Significant at the 1%; ** significant at the 5%.

Table 17: Pearson Correlations among the continuous independent variables and the activity and engagement variables

Table 18 presents the results of the t-tests of difference of means for activity and engagement levels among northern and southern countries. As regards activity levels, the results

show that the difference in the average activity level is very significant (southern local governments, with an average of 4.1 posts per working day, are twice as active as northern ones, with 1.9 posts per working day). As said before, northern municipalities have a higher number of fans (almost seven times higher than in southern countries, on average). In spite of that, the mean values of popularity, commitment, virality and the aggregated index of engagement are higher in southern than in northern cities. However, as Table 18 shows, the differences in engagement levels among northern and southern countries are not statistically significant.

	Nº municipalities with Facebook	Activity	P3	C3	V3	E
Mean North	39 (70.9%)	1.8618	6.3001	0.6071	0.8691	7.7764
Mean South	16 (80.0%)	4.0815	6.5942	1.8394	1.3704	9.8040
t-test	-	-2.449**	-0.093	-1.533	-0.986	-0.559

Note. ** Significant at the 5%.

Table 18: Differences between activity, and engagement in Northern and Southern countries

4.5 Discussion and implications

The proliferation of social computing and SM is here for the long haul. As previous research about the USA shows (Mergel, 2013), the overwhelming reason for participation in SM platforms can be summarized by one main goal: representation of the entity on all potential interaction channels, i.e., to be present where the people are. Local government, referring to the closest level of government to citizens, needs to harness potential opportunities through effective use of SM. Having a Facebook page can be considered a symbol of modernity and responsiveness, which may be perceived as a must for political legitimacy, especially in times of

crisis (Ma, 2013). Our results show that there is a high presence in the usage of Facebook within the examined European municipalities (73%). Previous research carried out in the first semester of 2010 found that 17% of these local governments had an official Facebook page (Bonsón *et al*., 2012), evidencing important advances in Facebook presence in a two-year period. It seems that European municipalities are increasingly using Facebook in order to reach their citizens, especially in southern countries where 80% of the municipalities have a Facebook presence.

However, having a presence on Facebook should not be a goal in itself. Local governments must define their strategy and allow for frequent communication and feedback among government representatives and the public. This is the only way in which G2C can significantly be improved and trust be gained. Communication between a local government and a citizen must be frequent, but without overwhelming the audience. Recent guidelines on SM use by public sector entities suggest a minimum of two and a maximum of 10 tweets/posts per working day (UK Government Cabinet Office, 2009). Our results on Facebook use by Western EU local governments have found low levels of activity: 2.5 messages per working day in 2012. Our results show that, on average, southern local governments are more active in posting messages on Facebook than northern municipalities. However, we have to bear in mind that high levels of heterogeneity exist in the sample. In terms of the audiences of the official Facebook pages of Western municipalities, on average the number of fans was rather high. Northern municipalities have a significantly higher number of fans than municipalities in the south, but also higher levels of heterogeneity among cities.

But, are fans engaging with their municipalities? As indicated by Mergel (2013), a key question concerning SM use in the public sector is whether SM are really increasing citizen

participation in government. A high percentage of posts with likes (P1), comments (P2) and shares (P3), and high average numbers of likes, comments and shares per post (P2, C2 and V2 respectively) can be considered rough indicators of conversation and dialogues, while low figures in these metrics can be considered indicators of unidirectional information sharing from part of the local government (Brainard & McNutt, 2010). Our results in this regard still show limited levels of engagement among citizens, as the main activity is simply clicking the "like" button. When the participation of citizens involves greater effort, e.g., by selecting "friends" with whom to share the post, or commenting on the posts, levels of engagement decrease. These findings are consistent with previous studies indicating that interaction on SM tends to be limited (Hansard Society, 2009; Wright, 2009). The fact that most of the posts were liked (81%) is evidence that citizens find local government posts interesting and useful, but they do not show any further interest by sharing the information with friends or by engaging in a dialogue by commenting on them (only around 41% of the posts are shared or commented on). An interesting finding is that shares are more widely used than comments, so it seems that citizens tend to share relevant content published by municipalities.

Our results also show that there is no apparent relationship between municipalities' activity and engagement levels by citizens. This suggests that merely raising the activity level of a channel (that is, promoting a more frequent communication flow), does not necessarily result in higher levels of activity on the part of citizens. But we have to bear in mind that this study has not investigated the content of the messages/posts and their impact on engagement. Certain contents can be more important to citizens than others and generate higher engagement levels. This is an interesting area that deserves further investigation, as indicated below.

Among the factors influencing activity levels by local governments and engagement levels by citizens, only a few relationships were found (considering municipality characteristics). Only the size of the municipality seems to be positively correlated with the activity levels. This confirms that the use of Facebook is perceived as particularly effective in the case of larger-sized local governments, as it has often been the case with other e-government related innovations (Ho & Ni, 2004; Schedler & Summermatter, 2007; Pina *et al*., 2009, 2010).

Another interesting finding is that southern local governments presented higher activity levels than northern ones. This may raise the questions of why this happened and if this result is generalizable. Our results do not offer an answer for these questions, but we can tentatively conclude that due to the greater effect of the present financial and economic crises, southern local governments feel more pressure to be transparent, open and accountable and to promote citizen participation in policy formulation. In general, southern municipalities in today's Europe are in a weaker economic and financial situation, and therefore openness and transparency here seems to be more important to build trust. SM in general and Facebook in particular can be useful tools to reach this goal.

With regard to Facebook page metrics (number of fans) and the technological readiness of the population, none of the variables influence activity levels by local governments or engagement levels by citizens. These findings are consistent with the results of Ma (2013) who also found that e-government has no significant effect on the adoption and earliness of police microblogging.

From the cases examined, it seems that channel activity is more an attitude or a decision on the part of local governments than a consequence of citizen demand or a dialogic

communication with citizens. This finding is consistent with that of Ma (2012) who found that public pressure had only insignificant effects on the diffusion of government microblogging. In general terms, Facebook activity levels by local governments and engagement levels by citizens are not statistically related with municipality characteristics, Facebook page metrics or the technological readiness of the population. The findings seem to be consistent with previous research indicating that active presence in SM depends on the special circumstances of each local government and on the political will and personal attitudes of public sector managers (Bonsón *et al*., 2012; Hansard Society, 2009). Developments in this area seem rather chaotic, both regarding the offer made by local governments and levels of use by citizens. Therefore, predicting future developments in this area seems risky.

Significant opportunities exist, particularly with new web 2.0 technologies, to harness online media in ways that engage, rather than just communicate with, constituents. Previous research has shown the importance of "perceived value" in explaining the participation continuance intentions and behavior of Facebook users (Al-Debei, Al-Lozi & Papazafeiropoulou, 2013). That is, Facebook users will not risk committing time and effort to it continually without being sure of the benefits and value they can derive from participation continuance. Thus, local governments should clearly establish the main purpose of their Facebook page (to inform, capture feedback, engage) in order to avoid frustration on the part of citizens that can lead to distrust. If routines for citizen participation are established but politicians do not use the input they receive, the net effects on public trust in government may be negative rather than positive. Governments should take this into careful consideration because previous research has shown that trust increases the probability that citizens will invest their resources, time and knowledge in

participation, thus creating stability in the relationship and providing a stronger basis for cooperation (Klijn *et al.*, 2010; Meijer *et al*, 2012; Tolbert & Mossberger, 2006).

We do not want to bring this section to an end without indicating the limitations of this study and highlighting the areas for further research. The first limitation is the dataset: this paper is based on the analysis of five larger sized local governments per country in the first 15 EU member countries. Furthermore, we have analyzed the official corporate Facebook account, but some councils may have several official accounts on Facebook covering a "spectrum" of specific topics (f.e. tourism, libraries, sports, cultural activities, and youth). The third limitation is the difficulty of controlling for external factors.

Future studies should broaden the number of cases studied per country, the range of sizes of the local governments analyzed, and also include geographical areas other than Western Europe. An in-depth investigation of whether North-South differences in Europe within Facebook usage and practices may exist or not could be a fruitful avenue for further research. Another important avenue for future studies may be the analysis of the nature of activity in SM platforms and the content of posts – that is, whether the activity being promoted by local governments reflects primarily unidirectional information distribution, bidirectional exchange/transaction, or discussion, dialogue, and collaboration. This type of analysis will be particularly useful in order to see what topics attract and engage more citizens on SM platforms. Fostering participation in SM platforms is an issue that continues to present challenges for researchers and practitioners alike (Al-Debei *et al*., 2013; Lee & Kwak, 2012). Investigating this matter in terms of the public sector's SM platforms is an area that requires further research as the continuous usage and engagement of citizens on these platforms are key success factors.

4.6 Conclusions

The use of Facebook by Western European local governments has become commonplace, with important advances in Facebook presence in recent times. SM in general and Facebook in particular can be useful tools to promote openness, transparency, citizen engagement and collaboration. In this way, local governments can gain reputation and trust, while reducing costs and marketing spending. It seems that European municipalities are increasingly using Facebook in order to reach citizens, especially in southern countries. As the impact of the present financial and economic crises has been greater in southern municipalities, they may feel more *urgency* to have a Facebook official page to communicate with citizens. Thus, the availability of a Facebook page is confirmed as a symbol of modernity and responsiveness, which may be perceived as particularly necessary for political legitimacy, especially in times of crisis.

The audiences of the official Facebook pages of Western European municipalities are rather high. But a high number of fans does not automatically mean an engaged audience. Unfortunately, citizen engagement in general is low. Pushing the "like" button (the activity that represents the lowest level of engagement on the part of citizens) is the most popular form of engagement, but when the participation of citizens involves greater effort, by sharing the posts or commenting on them, levels of engagement decrease. So, in spite of the positive rhetoric at the theoretical level, for the moment, Facebook does not seem to be an effective platform for citizens' engagement on local policy. The fact that most of the posts were liked is evidence that they are considered interesting and useful. But somehow people do not show any further interest in sharing the information with friends or engaging in a dialogue by means of comments. Therefore, these findings suggest that the interest is limited on the part of citizens in terms of engaging in conversations with government. However, we have to bear in mind that this paper

has not analyzed the content of the posts of local governments and that it is very likely that in the early stages of SM adoption, Facebook is only an additional channel to replicate information that is published through the standard ICT channels, rather than using the medium for social interactions (Mergel & Bretschneider, 2013). Therefore SM managers need to orient the contents of the posts and examine best practices if they want to facilitate the engagement of citizens and get more feedback by means of likes, comments and shares.

Our results show high levels of heterogeneity in Facebook activity. No usage patterns or relationship between municipalities' activity and engagement levels by citizens were found. Furthermore, Facebook activity levels by local governments and engagement levels by citizens in general terms are not statistically related to municipality characteristics, Facebook page metrics or the technological readiness of the population. It seems that channel activity is more an attitude or a decision on the part of local governments than a consequence of citizen demand or a dialogic communication with citizens. Developments of this field seem rather chaotic, - taking into account both the local governments and citizens -; therefore, predicting future developments in this area seems somewhat risky at this point of the investigation.

The main contributions of this paper to theory and practice can be summarized as follows. On the theoretical level, this paper contributes with the application of some publicly available metrics to investigate push and pull activities, dialogic communication and networking strategies in social media and in e-government. As regards practical implications, local governments should clearly establish the main purpose of their Facebook page (to inform, capture feedback, engage) in order to avoid frustration on the part of citizens that can lead to distrust and reduce the chances that citizens will invest their resources, time and knowledge in participation.

CHAPTER 5

THE IMPACT OF DIFFERENT MEDIA AND CONTENT TYPES ON CITIZENS' ENGAGEMENT

5.1. Introduction

Governments are accountable to citizens and society at large, since they are responsible for safeguarding the interests of the general public. Parallel to this, a huge amount of information can be published on the Internet and social media (SM) channels for a relatively low cost. The use of ICTs in the public sector (e-government) has become a powerful strategy for administrative reform at all levels of government. As regards the use of ICTs in local governments, Johannessen *et al*. (2012) found that SM is ranked third among the preferred modes of communication after the e-mail and the municipality web site. They also concluded that effective municipal communication and e-participation require the use of different media. In general, participation can create value for both citizens and governments. Moreover, events such as the WikiLeaks scandal, where private governmental communications were made public, point toward the fact that the concepts of open government, democracy and freedom of information are being transformed by SM (Picazo-Vela *et al*., 2012).

Growing dynamics of SM suggest that it is not a fad. This study focuses on Facebook since it is on the first place among SM sites according to Alexa rankings (Alexa.com, 2013). Furthermore, Facebook has the highest levels of engagement among SM users, with 63% of Facebook users visiting the site at least once a day and 40% doing so multiple times throughout the day (Pew Research Center, 2013b). The use of Facebook to enable contact among citizens can be characterized as a normal practice. So, among all the available SM, Facebook offers the clearest possibilities for more sustained interaction between citizens and their local authority (Ellison & Hardey, 2013).

Prior studies have investigated governments use of SM (among others, Abdelsalam *et al*., 2013; Bertot *et al*., 2010; Bonsón *et al*., 2012; Ellison & Hardey, 2013; Ferro *et al*., 2013; Graham & Avery, 2013; Hofmann *et al*., 2013; Meijer & Thaens, 2013; Mossberger *et al*., 2013; Oliveira & Welch, 2013; Panagiotopoulos *et al*., 2013; Reddick & Norris, 2013; Snead, 2013) and the use of Facebook for political engagement (Conroy *et al*., 2012; Rustad & Saebo, 2013). They have also examined the engagement on business entities Facebook pages (Bonsón and Ratkai, 2013; Dekay, 2012; Gummerus *et al*., 2012; Haigh *et al*., 2013; Waters *et al*., 2009). But very limited research exists about the impact of media and content types on stakeholders' engagement. Fostering participation in SM platforms is an issue that continues to present challenges for researchers and practitioners alike (Al-Debei *et al*., 2013; Lee & Kwak, 2012). Investigating this matter in terms of the public sector's SM platforms is an area that requires further research as the continuous usage and engagement of citizens on these platforms are key success factors. While this study does not challenge the positive impact of SM on government *per se*, it posits that this relationship requires a more comprehensive examination. In order to measure this impact, the paper is based on theories of voluntary reporting, agency problem and citizen e-participation initiatives, by means of media and content types' analyzes, and differentiating among the contexts of different institutional settings and public administration styles.

Several authors have indicated the need that future research puts a greater emphasis on the real impact of SM on government-to-citizen (G2C) relationships, reinforcing the qualitative analysis of what the local entities do by means of SM channels (Bonsón *et al*., 2012; Reddick & Norris, 2013). In other words, the analyzes need to be expanded beyond implementation. And they need to emphasize the real use of SM tools by governments and citizens and the impact on

G2C relationships. In this context, the objective of this paper is to measure the impact of Facebook use by Western European local governments on stakeholders' engagement. The effect of different media and content types on citizen engagement will be analyzed, and also the influence of the institutional context on Facebook use and citizen engagement. So, this paper examines the effort of Western European local governments to promote transparency and citizen engagement through voluntary reporting by using Facebook, with the aim of giving answer to the following research questions. Does the use of different media and content types influence citizen engagement? Are there any cultural communicational differences across different public administration styles? After presenting the theoretical framework, a more specific set of propositions will be presented in subsection 2.3. Results show that there is a significant impact of media and content types on stakeholders' engagement and point towards the existence of cultural and communicational differences across public administration styles.

The chapter is divided in six sections, including the foregoing introduction. The second section (5.2) presents the background and conceptual framework of this study and section three (5.3) describes the research design and methods. Section four (5.4) presents the main findings of the research. In section five (5.5) the discussion part takes place and avenues for further research are suggested. Finally, section six (5.6) provides the conclusions and practical implications of this research.

5.2. Background and conceptual framework

This section first begins with a description of some of the key elements related to voluntary reporting, transparency, agency problem and citizen engagement, and the role of e-government towards open government. Then, a discussion of the institutional context in Western

Europe follows. The national context of public administrations has been used to understand the features of public management innovation processes. The section finishes with a proposal of conceptual framework and a set of propositions that will be used to organize, explain and discuss the results of the research.

5.2.1 Transparency and citizen engagement. The role of e-government and emerging technologies

In order to gain social legitimacy (Pfeffer & Salancik, 1978) local governments should voluntarily report information according to the expectations of society. This kind of disclosure can also be called as transparency. ICTs are powerful tools for enhancing transparency at very low cost. But some studies also indicate that e-transparency can have a heterogeneous effect on different dimensions of trust (Grimmelikhuijsen, 2009) and that the impact of transparency on citizens' trust in government depends on the cultural context of the country (Grimmelikhuijsen *et al*., 2013). Critics say that transparency will only result in less trust, and sceptics argue that it has no effect at all. As a consequence, e-transparency should be carefully managed (Bannister and Connolly, 2011). Some studies have found that transparency and accountability decrease corruption (Kim *et al*., 2009; Maor, 2004). Kim *et al*. (2009) evaluated an anti-corruption system and found that strong leadership was crucial to success. Engaging in highly visible philanthropic activities and communicating them to a wide audience is a way to attain legitimacy (Claasen & Roloff, 2011). Similar activity can be detected in the Obama Administration, where the government has several sites (web and SM) for tracking government spending and makes them visible to a wide public (http://www.recovery.gov).

E-government has grown into an umbrella term covering all uses of ICTs in government (Torres *et al*., 2006) in an effort to streamline transactions within government (G2G), between government and citizen (G2C) and between government and business (G2B). The adoption of communication technologies may aim to increase information dissemination, communication with stakeholders, and public input into government activities (Li & Feeney, 2014). Therefore, e-government is not only a tool for internal modernization, reporting information and the delivery of public services, but an effective communication channel for citizens to participate in democratic institutions and political processes.

Most conflicts in the public sector can be explained based on the agency problem (Papenfuß & Schaefer, 2010; Waterman & Meier, 1998), where the politicians/governments are the agents and voters/citizens/stakeholders are the principals. The agency problem arises because these two parties have different interests and asymmetric information. The stakeholders cannot ensure that the government is acting in the citizens best interests. But this conflict can be weakened by disclosing information voluntarily and allowing the municipalities' activities to be monitored, for example, by using a sophisticated digital media plan. The adoption of SM in the public sector may signal how the government conforms to social expectations about the promotion of transparency, engaging citizens and building trust, because it applies to a context where information asymmetry exists. Linders (2012) called this kind of governance as "we-government", reflecting to the need of governmental transformation by co-operation and increased citizen e-participation. Citizen participation can be detected in traditional forms of neighborhood watches or auxiliary policeman, among others, but new forms of volunteerism and citizen co-production are also emerging based on the use of ICTs and SM (Levine & Fisher, 1984; Linders, 2011; Meijer, 2014).

SM relationships usually start with a like, retweet, mention, etc. And usually these relationships evolve into being followers and friends and engaging in online conversations. SM use started in the private sector, although public sector entities have also started to adopt and use these tools. Panagiotopoulos *et al*. (2013) concluded that SM users might not always represent the general public, but they do open significant opportunities to improve G2C interactions and inform policy development. Therefore, having a Facebook page can be considered as a sign of transparency and accountability. Probably it represents something more than just being present where the people are, although some authors indicate that citizen feedback via SM does not result in governmental change (Magro, 2012).

SM is more immediate and flexible than other forms of communication. Comparing to the one-to-one questions of helplines, SM are more effective and transparent, favoring the evolution from one-to-many to many-to-many conversations (Panagiotopoulos *et al*., 2013). Linders (2011) showed several examples of government initiatives toward a more transparent and probably less centralized kind of government (we-government). For example, Obama's Open Government Directive (http://www.whitehouse.gov/ open) focuses on reducing the influence of special interests, creating easy-to-understand websites to track how the government spends public money and empowering the public to influence the decisions. In order to reach this last goal, the White House has a specialized website (http://petitions. whitehouse.gov) where people can engage on the issues that matter to them by signing an existing petition or starting a new one. These conversations also can be followed on Facebook, Twitter and Google+ since the administration decided to use various SM channels. Other example can be seen in Singapore (E-government Master Plan; http://www.egov.gov.sg/), among other countries.

But we do not need to look far from Europe. The Scottish parliament in the UK was the pioneer in establishing an online petition system in 1999 (http://epetitions.scottish.parliament.uk/). Later on, the UK government system was launched in 2006 (for example http://epetitions.scottish.parliament.uk/) and all local government authorities in England were required to provide an online petitioning facility by the end of 2010 (Panagiotopoulos *et al.*, 2012). The PADGETS project (http://www.padgets.eu), co-funded by the EU in the domain of ICT for e-governance and policy modeling, aims at implementing a prototype service for policy makers that utilizes SM technologies and techniques to authorize cross-platform publishing, content tracking, provide decision support and increase public engagement. Ferro *et al*. (2013) concluded that centralized use of multiple SM by government has relative advantage, trialability and observability. They also found that it has a substantial relative advantage comparing to previous generation models of e-participation, due to the first step the government makes towards the citizens, rather than to wait till the citizens move their activities onto the official spaces created for e-participation (e-petitions platforms, for example).

5.2.2 The institutional context: Public administration styles

Empirical studies of e-participation adoption by local governments have identified the importance of institutional characteristics (Panagiotopoulos *et al*., 2012; Royo *et al*, 2014). As Allen *et al*. (2001, 94) argue, the "necessary transformation in public sector governance and accountability is likely to be blocked by an administrative culture that may be ill suited for a digital world". Bertot *et al*. (2010) also found that a culture of openness is needed within the governance system to reach transparency.

SM advocates highlight the transformational capacities of these platforms and there is some evidence that the SM 'logic' indeed facilitates certain practices and therefore steers communication strategies. At the same time, other evidence suggests that new media are adapted to the specific situation and that patterns of new media use reflect underlying organizational and institutional differences (Meijer & Thaens, 2013; Reddick & Norris, 2013). According to Mergel (2012, p. 284): "the potential of social media use for meaningful, multi-directional exchanges between government and its diverse audiences do not fit the highly regulated and practiced top-down decision-making and broadcasting culture". In this study, we will analyze whether any communicational differences exist among local government belonging to different public administration styles.

Kickert (1997) and Torres (2004) distinguished four public administration styles in Western Europe: Anglo-Saxon, Nordic, Germanic and Napoleonic. The public administration style has resulted as an important element for explaining the evolution of public sector reforms, including recent developments in transparency, accountability and e-participation (García-Sánchez *et al*., 2011, Pina *et al*., 2007; 2009; 2010; Royo *et al*., 2014). Anglo-Saxon and Nordic countries are considered to have a long-standing reputation of public sector reforms, citizen engagement and transparency. While, on the other hand, Napoleonic and Germanic countries have a more legalistic tradition and could be considered as laggards in public sector reforms. The literature also discusses that in the 1980s Anglo-Saxon countries introduced a new public managerial approach for efficiency and effectiveness. And Nordic countries have a tradition of negotiation and consultation; therefore they are concerned to meet the needs of citizens. On the contrary, Germanic and Napoleonic countries are usually more bureaucratic, hierarchical, based in strong administrative law in a weberian public administration. However, as regards to citizen

participation, Germanic countries have a long tradition of consultation with social partners (OECD, 2001).

5.2.3. Conceptual framework and propositions

Because of advances in technological capabilities and widespread adoption, the Internet and SM have become a cost-effective medium, both for disseminating information and for collecting ideas from an informed public that is no longer happy to be just a passive recipient of government policy. According to Vragov and Kumar (2013), technology can aid a peaceful transition from thin democracies (where there are very limited avenues of action for citizens to express their preferences) to strong democracies (where there is a strong emphasis on engaging the citizenry).

Linders (2012) defines the following typology for citizen e-participation: (1) citizen sourcing, (2) government as a platform, and (3) do-it-yourself government. These categories reflect to the models for citizen co-production in the age of SM: citizen to government (C2G), government to citizen (G2C) and C2C (citizen to citizen), respectively. C2G is mainly about consultation and ideation, where citizens are enabled to share their opinions with government. G2C is mainly about informing and nudging, where citizens are equipped with data to make informed decisions. Lastly, C2C is about self-organization. This paper suggests that Linders' (2012) models of SM based citizen-government relationships are also valid on Facebook. And it reinforces the idea that the transition from e-government (citizen as customer) to we-government (citizen as partner) is "a new kind of social contract" (Long, 2002), where the public plays a far more active role than it was traditionally.

This paper interprets Linders' (2012) classification of citizen e-participation initiatives in the age of SM by means of C2G and G2C relationships. Figure 6 shows the role of Facebook on G2C and C2G communication. Online communication channels make data mining possible for governments (Linders, 2011, 2012). This can help citizens and governments, as partners, to be more informed and make socially responsible decisions. Crowdsourcing –or citizen sourcing– (Nam, 2012; Torres, 2007)is also emerging as a new and powerful problem-solving mechanism, through which citizens use their skills and expertise to solve government challenges. A new level of transparent and open government has been enabled where the datasets are available as an open-book. For example, in forms of voluntary reporting, including financial reporting and tracking how public money is spent.

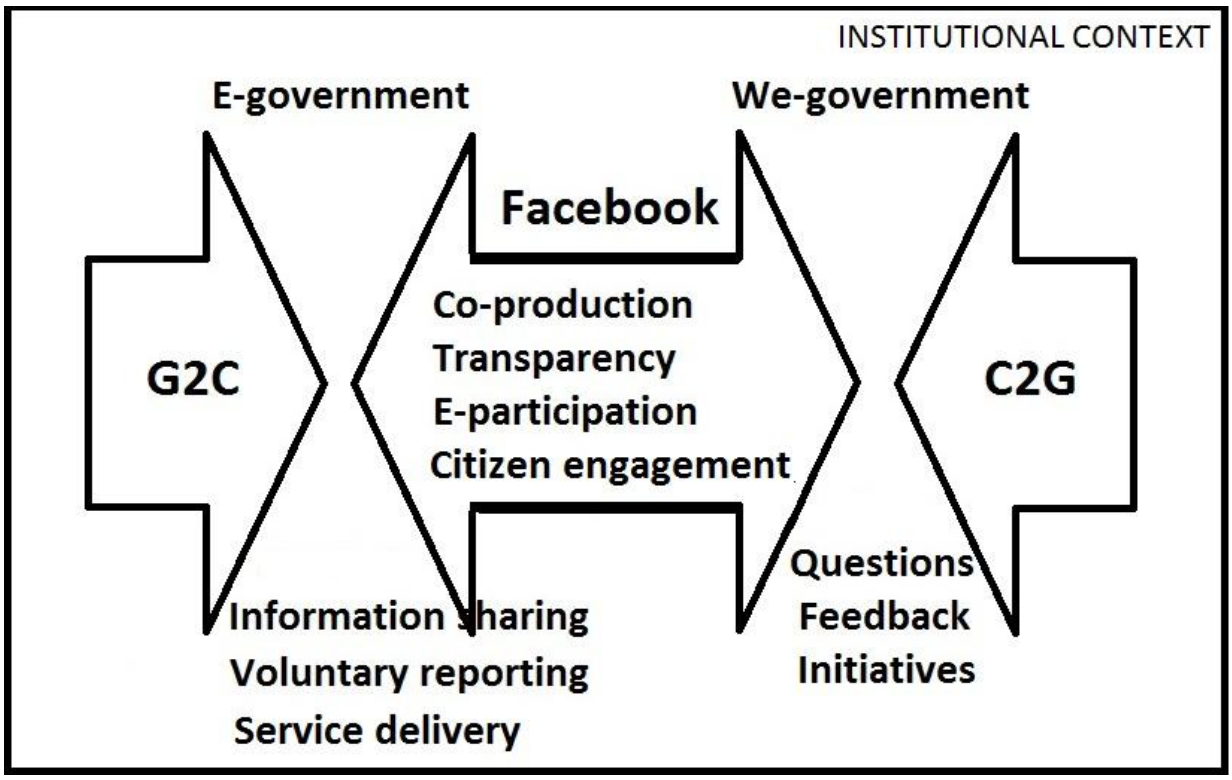

Figure 6: The role of Facebook on G2C and C2G communication

On the basis of prior literature and theories, we explore the following proposition through the empirical work:

Proposition 1: Posts related to everyday issues in the municipality promote higher levels of citizen engagement.

Previous research has suggested that the topic of the post has an important influence on citizen engagement (Graham & Avery, 2013; Halpern & Katz, 2012; Khan *et al*., 2014). However, little research exists about the analysis of how different content-types affect to citizen engagement on public sector Facebook pages. As Ellison and Hardey (2013) indicate, academic enquiry has largely neglected the use of SM for open-ended conversations about local political issues, but certainly local citizens in general will engage with problems as they are affected by them. The content analysis of Facebook posts in three German local governments carried out by Hofmann *et al*. (2013) concludes that there is no topic that guarantees success in terms of discussion frequency. However, their results show that external advertisements posted by citizens or companies are uninteresting to the followers of a government Facebook page. In contrast, information about leisure activities and news about administration events seem to be of interest for the followers of the pages.

Proposition 2: The use of multimedia content provokes citizens' participation.

Communication in online social networks conveys improved media richness, since they can include rich multimedia data such as pictures, videos, or hyperlinks. This might open up new potential for organizations to interact with their stakeholders. Facebook posts including multimedia features can be used as eye-catchers drawing the users' attention to the published information. Previous research in German local governments (Hofmann *et al*., 2013) has found

that using pictures and embedded videos fosters citizen interaction, with more frequent likes and comments on these posts than in text only posts.

Proposition 3: The institutional setting (public administration style) influences Facebook activity by local governments and citizens engagement.

Proposition 4: Engagement levels by citizens are higher in more open local governments (those allowing wall posts by stakeholders).

Previous research has also highlighted that a combination of contextual and path-dependency factors accounts for differences in the emerging SM strategies of public sector organizations (Meijer & Thaens, 2013; Reddick & Norris, 2013). SM technologies, like other previous waves of technology innovation, have their own transformational potential, but organizational and contextual factors are also essential to understand their results in public bureaucracies (Abdelsalam *et al*., 2013; Meijer & Thaens, 2013; Oliveira & Welch, 2013). Based on our previous discussion (Section 5.2.2) about the public administration styles, *Proposition 3* is presented. In addition, we also want to test whether more open local governments (understanding by "more open" those allowing wall post by stakeholders) are also more successful at promoting higher levels of engagement by stakeholders (*Proposition 4*). By allowing users to post messages on the walls of the entity, local governments are creating a sort of virtual community with their fans in their Facebook accounts, where users not only have the opportunity to interact directly with the posts created by the organization, but also to promote new topics themselves. That is to say, by allowing for open communication, local governments seem to support democratic and participatory citizen engagement. According to Graham and Avery (2013) and Halpern and Katz (2012), this feature is expected to play a central role in affecting citizens' engagement.

5.3. Research design and methods

The sample for this study comprises the first 15 member countries of the EU represented by the five largest cities of each; thus, a total of 75 Western EU local governments have been analyzed (see Appendix A). Larger-sized local governments were chosen because they are usually more innovative in the adoption of new technologies, they have greater disclosure needs, and lower relative costs for the implementation of the new Web 2.0 tools (Bonsón *et al*., 2012). Besides, the municipality level (because of its closeness to citizens) offers a greater diversity of citizen interaction possibilities. Data collection took place in March 2013, analyzing the 50 most recent posts from each local government. The final database consists of 2,950 posts, as 16 of the analyzed local governments did not have an official Facebook presence.

The municipalities of the sample have been classified into four groups, according to their public administration style. Germanic countries are Austria and Germany. Napoleonic countries are Belgium, France, Greece, Italy, Luxembourg, Portugal and Spain. Nordic countries are Denmark, Finland, the Netherlands and Sweden. Anglo-Saxon countries are Ireland and the United Kingdom. As indicated in the previous section, prior studies have found that the public administration style is an important element for explaining the evolution of public sector reforms, including recent developments in transparency, accountability and e-participation. In this study we will check whether differences exist among different public administration styles and Facebook use by local governments and citizen engagement.

The use of Facebook by each municipality was examined by applying the same method in all the cases. First of all, the official website of the municipality was checked for a direct link to the Facebook platform. If a link was found, the linked platform was accepted as the official one.

For the rest of the cases, the presence of the municipality on this platform was checked by using its official name, the link to its official website and/or the official e-mail address. A binary code (1/0) was applied to register whether a municipality had an official Facebook account or not. Posts on the Facebook wall were coded following a dual classification differentiating among media and content types, as follows.

For media type, the categories were the following: (1) video, (2) link, (3) photo, (4) text and (5) others. Only the embedded videos were considered in the video category. Links re-directing to a video content were considered as links. Even though on Facebook most of the links contain a thumbnail, they were considered as links and not as photos. Photos with texts were counted as photos, because texts are complimentary parts of them. Only those posts where no links, no videos, and no photos were found were considered to be texts. Those posts which did not fall in any of the four above-mentioned categories (for example "the events") were counted as "others".

As regards the content type analysis, sixteen categories were used for coding: (1) public works and town planning, (2) environment, (3) attention to the citizen, (4) citizen participation, (5) social services, (6) citizen protection and security, (7) public transport, (8) employment and training schemes, (9) health, (10) education, (11) cultural activities and sports, (12) housing, (13) governance issues, (14) financial reporting, (15) marketing/city promotion/tourism, (16) others. This classification of media content types has been elaborated based the lists of local services elaborated by Torres and Pina (2001) and subsequently adapted by Martí *et al*. (2012), conveniently refined according to the most frequent types of posts provided by local governments. For example, "public transport", "employment and training schemes" and

"tourism" were all included under a common category ("economic activities") in the above mentioned studies, but they were separated in this research because of their individual relevance. Two categories "governance issues" and "financial reporting" were added as they are not local public services, but important aspects related to transparency, accountability and citizen engagement.

We also examined whether municipalities allow wall posts by stakeholders. In Facebook this function is optional. So each municipality has the right to decide if they allow stakeholders to post on their "wall" or not, which can be considered a sign of openness on the part of municipalities. To measure this, a binary coding was applied, where 0 meant "no usage" and 1 meant "usage".

In order to measure citizens engagement on Facebook pages, the number of likes, comments and shares were collected for each post in order to calculate three Facebook metrics as defined by Bonsón and Ratkai (2013) reflecting popularity (P3), commitment (C3) and virality (V3); along with an additional aggregated index of engagement (E) (see Table 12). As can be seen in Table 12 the metrics of P3, C3 and V3 have been divided by the number of fans. Since these metrics are independent of the size of the audience, they seem to be the most representative in terms of measuring engagement. Therefore only these metrics and the aggregated level of engagement were used in this study. From now on, we will refer to them as popularity, commitment, virality and engagement, respectively.

In order to examine our propositions, the engagement metrics were computed differentiating among media, content types, public administration styles and whether or not the local government allowed wall posts by stakeholders. The Kruskal-Wallis and the Pearson's chi-

squared tests were used to test for possible differences, as appropriate. Also, differences among public administration styles and media and content types and levels of citizen engagement were checked by using contingency tables and the Pearson's chi-squared test or the Kruskal-Wallis test, as appropriate.

5.4. Analysis and results

This analysis classifies the results according to the media and content types, and to the four public administration styles that were identified in preceding sections and which served as the basis of this empirical investigation. Also, we will analyze whether local governments allowing wall posts by stakeholders are more effective at promoting higher levels of citizen engagement or not. The first part of the results section presents an overview of the use of Facebook among Western European local governments. The second part of the results section analyzes the differences in citizen engagement depending on the communicational strategies used (content and media types, wall post allowed or not) and in the different public administration styles.

5.4.1. Use of Facebook and communicational strategies

First, Table 19 presents an overview of the use of Facebook among the Western European local governments analyzed. Germanic municipalities present the highest rate of adoption of Facebook (100%), followed by Anglo-Saxon (90%), Nordic (85%) and Napoleonic (66%) local governments. On average, 59 municipalities (out of 75) had a Facebook page in the examined period.

	Municipalities using Facebook	Total N° of municipalities	%
Anglo-Saxon	9	10	90
Nordic	17	20	85
Germanic	10	10	100
Napoleonic	23	35	66
Total	59	75	79

Table 19: Use of Facebook at the local government level

As regards the possibility of allowing wall posts by stakeholders, 76% of the examined municipalities with a Facebook account allowed stakeholders to post their opinions, questions, feedback or critics on the official Facebook page (see Table 20).

	Municipalities allowing wall posts by others	Municipalities using Facebook	%
Anglo-Saxon	6	9	67
Nordic	14	17	82
Germanic	10	10	100
Napoleonic	15	23	65
Total	45	59	76

Note: Value of Pearson's chi-squared test = 273.503; Significant at the 1% level.

Table 20: Percentage of municipalities allowing wall posts by stakeholders

However, as evidenced by the Pearson's chi-squared test, the differences among public administration styles are statistically significant. The most "open" public administration style in this regard is the Germanic, where 100% of the examined municipalities allow posts by

stakeholders. A high proportion of Nordic municipalities (82%) also allow posts by stakeholders, but this feature is much less common among Anglo-Saxon (67%) and Napoleonic (65%) local governments. As Table 21 shows, certain patterns can be found according to the content type. In general terms "cultural activities and sports" is the most widely used content type (23.7% of the posts), followed by "marketing/city promotion/tourism" (15.8%) and "public works and town planning" (7.4%). The least frequent content types were "financial reporting" (0.6%); "housing" (0.7%) and health (1.6%). These patterns are quite similar among the different public administration styles.

"Cultural activities and sports" is the most frequent type of content in Anglo-Saxon, Nordic and Napoleonic local governments, and the second in Germanic municipalities, where most posts (34.8%) deal with "marketing/city promotion/tourism". "Marketing/city promotion/tourism" is a frequent topic among all the public administrations styles, but the Anglo-Saxon, where only 2.4% of the posts deal with this issue. However, governance and environmental issues play a more significant role in Anglo-Saxon local governments (8.4% of the posts for each of these two content types). As indicated by the Pearson's chi-squared test at the bottom of the table, there are differences between the relative importance of the different content types among the public administration styles (Table 21).

	Public administration style				
Content types	Anglo-Saxon	Nordic	Germanic	Napoleonic	Total
Public works and town planning	8.2	8.4	2.6	8.4	7.4
Environment	8.4	6.8	3	3	4.9
Attention to the citizen	8.2	6.4	2.8	9	7.1
Citizen participation	5.6	6	1.2	2	3.6
Social services	6.4	4.2	1.2	3.2	3.7
Citizen protection and security	5.6	1.3	1	1.9	2.1
Public transport	1.3	1.8	0.6	3.9	2.3
Employment and training schemes	1.8	3.8	0	0.9	1.7
Health	0.4	2.7	0.4	1.7	1.6
Education	4.2	4.2	1.6	3.3	3.4
Cultural activities and sports	19.1	20	29	25.8	23.7
Housing	0.7	0.5	0.8	0.8	0.7
Governance issues	8.4	4	2.2	5.7	5.1
Financial reporting	0.9	0.2	0.4	1	0.6
Marketing/city promotion/tourism	2.4	14.9	34.8	13.5	15.8
Other	18.2	14.8	18.4	16	16.4
Total	100	100	100	100	100

Note: Value of Pearson's chi-squared test = 449.607; Significant at the 1% level.

Table 21: Percentage of the posts by content type and public administration style

As can be seen in Table 22, regarding to media types, some basic patterns also can be found. In general terms, the most used media type is the link, with more than 50% of the total posts containing a URL link, followed by photo (26.9%), text (12.6%) and video (6.1%). This ordering in the relative importance of media types is maintained in all public administration styles, but the Anglo-Saxon, where posting text was more commonly used than the photos (20.2% versus 16%). However, some differences in the percentage of the posts by media type can be found among the different public administration styles. As indicated by the Pearson's chi-squared test, there are differences between the relative importance of the different media types among the public administration styles.

	Public administration style				
Media types	Anglo-Saxon	Nordic	Germanic	Napoleonic	Total
Video	0	2.2	4.4	12.2	6.1
Link	61.8	50.6	53.8	48.4	52
Photo	16	32.9	36.4	22.7	26.9
Text	20.2	11.4	3.6	14.3	12.6
Other	2	2.8	1.8	2.3	2.3
Total	100	100	100	100	100

Note: Value of Pearson's chi-squared test = 245.270; Significant at the 1% level.

Table 22: Percentage of the posts by media type and public administration style

5.4.2. Differences in citizens' engagement

As regards engagement levels by citizens, the largest audiences (average number of fans) are found in Germanic countries (see Table 23). However, Germanic countries do not have the highest levels of engagement. The aggregated index of engagement shows that, on average, the

most engaged citizens are found in Nordic and Napoleonic local governments, where citizens have almost twice as high engagement levels as in the Anglo-Saxon and three times higher than in the Germanic municipalities. Nevertheless, Anglo-Saxon local governments have the highest commitment metric, so here posts are more likely to be commented on. Considering these Facebook metrics, high diversity can be found among the public administration styles regarding citizens' engagement, which is confirmed by the Kruskal-Wallis tests.

	Fans	Popularity	Commitment	Virality	Engagement
Anglo-Saxon	825	5.3803	2.0107	1.3538	8.7448
Nordic	2,045	12.5128	1.3613	1.0761	14.9502
Germanic	337,987	4.6057	0.3268	0.5097	5.4422
Napoleonic	95,792	8.7757	0.9331	4.4607	14.1695
Total	95,344	8.6278	1.1181	2.3419	12.0877
Kruskal-Wallis test		49.177	57.600	174.674	48.224
Asymptotic significance		0.000	0.000	0.000	0.000

Table 23: Citizens' engagement by public administration style.

As Table 24 shows, the most engaging topics are "public transport" and "housing", and the type of content of the posts is a relevant factor to explain the different levels of citizens' engagement (Kruskal-Wallis tests significant at the 1% level). Examining the different components of engagement (popularity, commitment and virality), high levels of heterogeneous features can be found. Also, the average levels of engagement are very diverse: 8.6 for popularity, 1.1 for commitment and 2.3 for virality, which shows that clicking on the "like" button is much more common that commenting or sharing the post. The most popular (most liked) topics are related to "housing" and "marketing/city promotion/tourism". The most

commented topics deal with the "environment" and "public works and town planning", while the most viral (most shared) topics are "public transport" and "attention to the citizen".

	Popularity	Commitment	Virality	Engagement
Public works and town planning	11.0602	2.3866	2.3196	15.7664
Environment	8.4967	2.6960	1.1737	12.3664
Attention to the citizen	8.2099	1.0831	5.2322	14.5252
Citizen participation	8.6846	1.0952	4.8864	14.6663
Social services	4.9343	1.5628	1.9245	8.4216
Citizen protection and security	4.5072	0.3626	0.7940	5.6639
Public Transport	9.2150	2.2933	6.9642	18.4724
Employment and training schemes	4.6582	0.9975	2.2104	7.8661
Health	5.7152	0.5848	1.0149	7.3149
Education	5.1973	1.4782	1.1423	7.8178
Cultural activities and sports	6.7641	0.5632	1.7358	9.0632
Housing	13.5115	2.2155	2.2765	18.0034
Governance issues	6.1326	0.6503	2.5456	9.3285
Financial reporting	6.2520	2.1802	2.4130	10.8452
Marketing/city promotion/tourism	11.3541	0.6324	2.2984	14.2849
Other	11.1350	1.2393	1.7866	14.1608
Total	8.6278	1.1181	2.3419	12.0877
Kruskal-Wallis test	74.570	102.238	127.431	67.330
Asymptotic significance	0.000	0.000	0.000	0.000

Table 24: Citizens' engagement by content type

Interestingly, those topics more widely covered by local governments (those topics having a higher number of posts, as reported in Table 21) are not necessary those that elicit higher levels of engagement on the part of citizens. "Cultural activities and sports" and "marketing/city promotion/tourism" are the most widely used content types by local governments (23.7% and 15.8% of the posts, respectively, as shown in Table 21), but these topics only obtain low (in the case of cultural activities) or moderate (in the case of marketing) levels of engagement. In contrast, the two most engaging topics ("public transport" and "housing") only account for 2.3% and 0.7% (see Table 21) of the posts made by local governments, respectively.

The influence of the different topics on citizens' engagement also seems to be dependent upon the public administration style (see Table 25). The most engaging topics in Anglo-Saxon local governments are "employment and training schemes" and "environment". In Nordic municipalities, the topics that elicit more engagement on the part of citizens are "public works and town planning", "financial reporting" and "marketing". The most engaging topics in Germanic municipalities are "financial reporting" and "social services". Lastly, the topics generating more engagement in Napoleonic countries are the following: "citizen participation" and "housing".

	Engagement				
Content types	Anglo-Saxon	Nordic	Germanic	Napoleonic	Total
Public works and town planning	14.3645	24.8961	6.9558	10.7994	15.7664
Environment	20.2955	13.2432	4.0246	5.6889	12.3664
Attention to the citizen	6.8866	5.1834	8.5776	22.9753	14.5252
Citizen participation	8.6513	5.6855	2.6944	44.2412	14.6663
Social services	6.6652	4.6037	9.6428	13.3149	8.4216
Citizen protection and security	7.4736	2.3632	4.5329	5.5147	5.6639
Public Transport	1.1016	14.0258	0.8575	23.4451	18.4724
Employment and training schemes	29.3598	3.0688	-	6.0228	7.8661
Health	9.2329	8.0853	4.8826	6.4365	7.3149
Education	10.9621	8.8481	4.4306	5.9826	7.8178
Cultural activities and sports	7.1081	14.5621	3.1705	9.3587	9.0632
Housing	10.1059	6.2605	1.6234	33.1351	18.0034
Governance issues	4.2677	5.2837	1.8867	15.5664	9.3285
Financial reporting	11.7390	19.5313	18.6509	7.5217	10.8452
Marketing/city promotion/tourism	4.5717	19.0036	7.1773	19.0868	14.2849
Other	5.0237	27.4958	5.7897	13.2868	14.1608
Total	8.7448	14.9502	5.4422	14.1695	12.0877

Note: Value of Kruskal-Wallis test = 48.224; Significant at the 1% level.

Table 25: Citizens' engagement by content type and public administration style

Table 26 analyzes the effect of the use of different media types on citizen engagement. As the results of the Kruskal-Wallis test show, the media type also influences engagement levels. As can be seen, photos elicit the highest levels of engagement, followed by text. Considering the different types of engagement, the general pattern of "liking" (popularity) being much more common that commenting (commitment) or sharing (virality) the posts, also holds, in general terms, regarding media types. There is just one exception, which is the "other" category of media types, where virality is higher than popularity. The category of others may be considered as a mixed category, since it collects all media types that could not be fitted to any of the four established ones covering video, link, photo and text. For example, this residual category includes the "calendar events". Obviously, for this type of media, sharing the event seems to be the appropriate and useful form of engagement. This explains why this media type obtains the highest value in virality.

Media types	Popularity	Commitment	Virality	Engagement
Video	4.2324	0.5188	2.0027	6.7539
Link	4.3676	0.6609	1.1353	6.1637
Photo	18.6229	1.8093	4.1234	24.5556
Text	7.6441	1.8726	3.0064	12.5231
Other	4.9961	0.8352	5.9579	11.7892
Total	8.6278	1.1181	2.3419	12.0877
Kruskal-Wallis test	445.551	199.595	232.140	410.605
Asymptotic significance	0.000	0.000	0.000	0.000

Table 26: Citizens' engagement by media type

Finally, by examining the differences in engagement levels between municipalities allowing and not allowing wall posts by stakeholders (see Table 27), we also detected some main differences. Local governments allowing wall posts reached higher average levels of citizens' engagement in all the metrics examined. In case of the posts' popularity and the aggregated level of engagement these differences were significant at the 1% level.

	Popularity	Commitment	Virality	Engagement
Mean LG not allowing wall posts	6.3697	0.9356	2.2045	9.5098
Mean LG allowing wall posts	9.3303	1.1749	2.3846	12.8898
Total	8.6278	1.1181	2.3419	12.0877
t-test	-3.651**	-1.135	-0.273	-2.761**

Note: ** Significant at the 1% level

Table 27: Engagement levels in local governments allowing and not allowing wall posts by stakeholders

5.5. Discussion

Stakeholder engagement behaviors are essential part of the community success, because without active "likers" and "commentors" there will not be much to read about (Gummerus *et al*., 2012). Therefore, improving the knowledge about how to increase stakeholders' engagement and which media and content types do they prefer are very important topics.

Our results show that 79% of the examined European municipalities had an official Facebook page. Probably the same local governments have other pages for more specific reasons, services or departments as well, for example, tourism, promoting a healthier lifestyle, or other special purposes, like charity and fundraising, etc. All Germanic municipalities were found to

have a Facebook presence, and they also had the largest number of fans (on average, they had three times more audience than the second largest, the Napoleonic local governments).

But, as our results show, a bigger audience does not necessarily result in larger engagement levels. This means that not all the fans of Western European municipalities Facebook accounts are active on these platforms. Even more strikingly, our results show that the stakeholders of Germanic municipalities (that had the largest number of fans, on average) are also the least engaged. Although at first sight these findings may seem contradictory, this is not the case, as the audience can follow the posts of the municipalities without engaging in any additional online interaction in the Facebook platform. The most engaged stakeholders were from the Nordic and Napoleonic municipalities, with very important differences as regards engagement with respect to Anglo-Saxon and Germanic local governments.

The findings regarding popularity, commitment and virality are consistent with prior studies in the private sector (Bonsón and Ratkai, 2013). The most popular way of interaction is liking a post, followed by sharing it and lastly commenting on it, which is consistent with the relative easiness of each type of interaction. So, as liking a post is much faster and easier than commenting on it, citizens are making more use of the "like" than the "comment" function, which shows a limited level on engagement on the part of citizens.

Some patterns were found about what the local governments' voluntarily reported on Facebook. The topics most posted were connected to "cultural activities and sports" and "marketing/city promotion/tourism". Previous research in German local governments (Hofmann *et al*., 2013) has also found that most of the posts topics were concerned with leisure activities. To some extent, both topics are marketing oriented, as cultural activities may also be considered

as a kind of city and events promotion. These findings are not surprising at all, as the use of these platforms for marketing and public relations purposes is well documented both in the private (Breslauer & Smith, 2009; Christodoulides, 2009; Kalapesi *et al*., 2010; Mislove *et al*., 2007) and in the public sectors (Graham & Avery, 2013).

But our results show that citizens do not like interacting to marketing type of content as much. Therefore, these are not the contents they are more interested in. In general terms, the most engaging topics are "public transport", "housing" and "public works and town planning". So those topics which directly affect citizens' lives seem to be more appreciated, which is consistent with *Proposition 1*. Diversities were detected among the different public administration styles as regards the influence of content types on citizen engagement. For example, Anglo-Saxon citizens seem to be more engaged by issues of "employment and training schemes" and "environment", while Germanic citizens are more engaged by topics of "financial reporting". As both engagement levels by citizens and the influence of the different topics on citizens' engagement seem to be dependent upon the public administration style, we can conclude that a high cultural diversity exists among public administration styles (and perhaps individual local governments), depending on the specific circumstances in each jurisdiction at a given point in time, which also confirms *Proposition 3*.

Not only individuals' content types preferences are largely understudied, but also media types preferences. We found common patterns in local governments' media type choices in Facebook use. In general terms, the most widely used resources are the links, followed by the photos. But again, no total correspondence exits between the media more often used by local governments, and those media more engaging for citizens, as photos elicit the highest levels of

engagement, followed by text. These findings are consistent with previous research (Abdelsalam *et al*., 2013) in the sense that links is the most used media type, but the one that promotes the lowest levels of citizen engagement. Overall, these findings only provide partial support for *Proposition 2*, as photos obtain the highest levels of engagement, but text only post are more successful at engaging citizens that videos or hyperlinks. In any case, the power of photos to increase the intensity of citizens' reaction to post by local governments found in previous research (Hofmann *et al.*, 2013) is confirmed.

In spite of the fact that citizens have been widely recognized are sources of ideas and initiatives that provide a mutual enrichment for both parties –government and citizens– (Michel, 2005), citizens are accustomed to being treated as clients and not as partners (Linders, 2011). This tendency seems to be changing, slowly, by recent movements towards open government, we-government and increased attention to citizen participation. But as regards Facebook use by Western European municipalities, our results show that some room for improvement still exists, especially in Anglo-Saxon and Napoleonic local governments, where only around 65% of the local governments with an official Facebook page allow stakeholders to leave post on their Facebook pages. The reason for this can be the fear from being criticized, as prior studies in the private (Dekay, 2012) and public (Hofmann *et al*., 2013) sectors have found, but some researchers argue that this fear from criticism is not well established (Shu & Chuang, 2011). Nowadays, many citizens are discussing local policy online (Bonsón *et al*., 2012) and local governments should not miss the opinions expressed there. For local governments, not engaging now involves a greater risk than engaging: citizens will use these networks to talk about them, whether local governments utter a word to the conversation or not (Bonsón *et al*. 2012). Until governmental agencies do not allow the citizens to express their views publicly and freely, they

cannot make relative advantage from their e-participation initiatives. Previous research in the private sector (Byrd, 2012) has found that a corporation from the automotive industry letting its consumer community to direct the conversation during a crisis situation resulted to be a fruitful strategy. If local governments really want to use the Facebook pages to promote citizen engagement, our results show that allowing wall posts from users is an effective strategy, which confirms *Proposition 4*.

It seems that there is a demand from the citizens' side to a more effective communication about topics related to everyday life in their municipalities. Hopefully local governments (via their community managers) can realize this demand by opening effective *corporate dialog* initiatives (Bonsón *et al*., 2012), based on two core principles: collaboration and engagement (Eccles & Krzus, 2010). Furthermore they should encourage transparency via voluntary reporting and use the available technologies to promote citizen e-participation. Probably this would be a start of a larger modernization process to reach the "we-government" ideal, where citizens are actively shaping and contributing in the decisions of their municipalities.

Finally, the limitations of this study should be acknowledged and the avenues for further research indicated. As in all SM analyzes, this study is also just a snapshot of local government practices at a specific moment in time. Internet and SM are changing and evolving continuously, so future studies are needed to update the current findings. Future studies could also broaden the number of cases studied per country, the range in the sizes of the local governments analyzed, and include other public administration styles within Europe (such as Eastern European countries) and other geographical areas different than Europe. An issue that also deserves further attention from the academic literature is whether citizens' comments on SM platforms are

focused on criticizing or supporting public agencies, or whether there is a balance between negative and positive mentions (sentiment analyzes). Also, the C2C e-participation could be analyzed in order to gain some more insights about the third dimension of e-participation: Are citizens helping each other by providing answers on SM channels? Our results also point to a high cultural diversity among public administration styles (and perhaps individual local governments), depending on the specific circumstances in each jurisdiction at a given point in time. So, future research should provide more in-depth analyzes and case studies about differences in citizen engagement on local government Facebook pages.

5.6. Conclusions and implications

This investigation contributes meaningfully to the citizen e-participation and Government 2.0 literature by demonstrating that the content and media types have an impact on stakeholders' engagement on Facebook. Our results show that marketing related contents are preferred by local governments in Western Europe, but citizens do not seem to show much interest towards these contents and they prefer topics more closely related to their everyday lives. By disclosing relevant information voluntarily, the agency conflict -between local governments and citizens- could be weakened. So municipalities should identify the most relevant topics for citizens in their jurisdictions in order to meet citizens' needs, provide useful information for them and collect their opinions on these sensitive topics. Photo usage was also detected to provoke citizen participation. So, in order to capture the attention of the citizens, a good strategy can be to use pictures and photos as a tool of SM e-participation initiatives.

Results also show that engagement levels by citizens are higher in the case of those local governments which allow wall posts by stakeholders. So, it seems that more open local

governments not only provide for a wider range of e-participation possibilities, but citizens are also more active and engaged on discussions initiated by the local government. Engagement levels by citizens and the influence of the different topics on citizens' engagement seem to be dependent upon the public administration style, confirming that the institutional setting has an important influence on e-participation and citizen engagement.

Local governments have started using Facebook as a SM communication and reporting channel, although clear evidence about its impact or whether it means any change on G2C relationships is still missing. A major implication of our paper is to highlight that if local governments wish to use SM primarily for citizen engagement, their efforts may be more effective if they ensure that any content posted is specially focused around topics of interest and significance to local citizens, rather than being of broader organizational interest or marketing-related. Council-led conversations about the conduct of local governance and the quality of local service provision could play a significant role in encouraging informal participation in local issues (Ellison & Hardey, 2013), but in order to achieve this objective, the conversations have to be focused around topics of interest and significance to local citizens. This is particularly important, especially at a time when local governments need to appear responsive to local citizens' needs.

CHAPTER 6

CONCLUSIONS

I do not want to bring the research thesis to an end without highlighting the findings; practical and theoretical implications; avenues for future research and conclusions of this study. The study set out to explore the concepts of voluntary reporting, transparency, stakeholders' engagement in context of public administration and stakeholders in social media. The study has identified Facebook usage diversification among larger-sized Western European municipalities and stakeholders regarding public administration. The study has also sought to examine whether the different media and content types can result in effective communication with stakeholders, particularly in engagement. The general theoretical literature on this subject and specifically in the context of public administration is incomplete on several vital questions within the public administration and business management discourses (see Chapters 2 to 5). The study sought to answer the prior research question investigating *how the Facebook platform is actually being used by stakeholders and Western European local governments and how this usage can be measured and explained.*

6.1 Empirical findings

The main empirical findings are chapter specific and were summarized within the respective empirical chapters: factors that may support continued Facebook use intention; proposing a set of corporate Facebook metrics; municipalities' Facebook activity and stakeholders' engagement; citizens' engagement: the impact of different media and content types. This section will synthesize the empirical findings mainly to answer the study's primary research question.

Looking for the answer to how the Facebook platform is actually being used by stakeholders and Western European local governments, results show a large diversity of

Facebook activity and no strong usage patterns or relationship between municipalities' activity and engagement levels by citizens. Furthermore, Facebook activity levels by local governments and engagement levels by citizens in general terms are not statistically related to other examined components such as municipality characteristics, Facebook page metrics or the technological readiness of the population. So, as an illation, it seems that channel activity is more an attitude or a decision on the part of local governments than a consequence of citizen demand or a dialogic communication with citizens. On the other hand, this illation strengthened the corroborated model of post-acceptance of IS continuance, where attitude was found to be more significant and to have a greater effect on continued use than satisfaction.

While measuring and explaining Facebook usage, it was found that content and media types have an impact on stakeholders' engagement with Facebook. But results still show that in this respect demand and supply are somehow controversial: marketing-related content is preferred by local governments, while citizens prefer topics more closely related to their everyday lives.

6.2 Theoretical implications

Maybe the most important contribution on the theoretical level is to propose a set of validated metrics of Facebook engagement to measure and explain its usage. These proposed metrics are able to reflect the reactivity and dialogic communication with stakeholders and their engagement, the mood of stakeholders and the messages from the company for the purpose of assessing social legitimacy by means of voluntary disclosure on corporate Facebook (Table 12).

Another important contribution to the theory (mainly to the IS continuance usage literature) is the corroborated model of post-acceptance of IS continuance, which extends the

model of post-acceptance by incorporating two additional factors of attitude and social influence (Figure 4).

Other chapters contribute meaningfully to the citizen e-participation and Government 2.0 literature by means of the findings (explained in the fourth and fifth chapters); and also by the developed figures about the role of SM in general (Figure 1), the role of SM in municipalities (Figure 5) and the role of Facebook on G2C and C2G communication (Figure 6).

Another contribution is that through measuring the digitally disclosed voluntary information (thus increase transparency), the agency conflict – between local governments and citizens – could be weakened.

6.3 Recommendation for future research

To generate achievable strategies there is need for more case studies and empirical research at the local government level to allow further assessment of local dimensions of the subject. A well designed study may allow some generalization of the population. Exploring the following as future research strategies can facilitate the attainment of this goal:

Firstly, the identification of different stakeholder groups and secondly the clustering of their complex relationships should be taken into consideration. Thirdly, the examination of other SM channels may be of interest. In this context all the proposed metrics (Table 12) could be adapted for Facebook or other forms of SNS such as Google+ or Twitter.

Fourthly, future research may want to include Eastern European countries or a comparative study of the European Union and Switzerland. This latter one may be an interesting path and a relevant topic since a recent research project funded by the European Union and

implemented by the cooperation of 25 European universities investigates (among others) whether Switzerland could be a future model for the European Union (bEUcitizen, 2014).[10]

Fifthly, in future studies a differently designed sampling method is needed in order to achieve more generalizability or even an experimental design. For example, the researchers could use the population of all Western European municipalities (with all the necessary clustering information regarding to inhabitants etc.) and then randomly select the ones to collect data on and be examined.

6.4 Limitations[11]

The study has offered a retrospective empirical analysis on an important paradigmatic change covered by social media (with focus on Facebook) used by local governments and stakeholders; and was conducted in an online environment through sampling larger-sized Western European local governments. As a direct consequence of this methodology, the study encountered a number of limitations, which need to be considered. Since the design is empirical, the findings can only be generalized to the population of the larger-sized Western European local governments (in the case of Chapter 2 to the population of European business university students). And secondly being an observational study, the collected data are without inference and they can only provide evidence of association but they cannot show causal connection between the examined factors.

[10] *See more about the bEUcitizen project at http://beucitizen.eu/deliverables/*

[11] *Note that at the end of each chapter the research specific limitations related to the discussion chapters are remarked there. To avoid repetition, hereby, only the most relevant and general limitations are acknowledged.*

6.5 Conclusions

There are two main achievements of this study (respectively to the two main goals presented in the introduction chapter): firstly that it proposes the first Facebook metrics of engagement, popularity, commitment and virality to the scientific / academic and professional community, and secondly that by adapting (mainly but not exclusively) these metrics a retrospective empirical research has been carried out in the case of larger-sized Western European local governments.

It was found that the audiences of the official Facebook pages of Western European municipalities are rather high. But high numbers of fans are not equal to engaged audiences. Unfortunately, citizen engagement in general was found to be low. Therefore, it seems that the interest is limited on the part of citizens in terms of engaging in conversations with government. But on the other hand, some useful strategies were also found: for example photo usage was detected to provoke citizen participation. So, a good strategy may want to use a high rate of pictures and photos as a tool of SM e-participation initiatives. Also some evidence was found that in the case of more open local governments, which provide a wider range of e-participation possibilities (allowing wallposts by others), citizens are more active and engaged. Since causal relationships cannot be inferred from the findings, it cannot be said that more open municipalities on Facebook can engage more citizens, but correlations were detected.

Finally the engagement levels of citizens and the influence of diverse topics (from marketing related to simple announcements affecting everyday's lives) seem to be dependent upon the public administration style. So, municipalities may want to identify the most relevant topics for citizens in their jurisdictions in order to better meet citizens' needs.

As a conclusion of this study, it can be stated that larger-sized Western European local governments tend to use Facebook as a response to the recent paradigmatic shifts (via digital voluntary reporting and therefore more transparency). However, they still have more to learn since in most cases the methods of usage are not in harmony with the stakeholders' / citizens' needs. Good tactics can be derived from this study (and put into practice) in order to achieve a higher level of stakeholders' engagement, hence possibly a more active local community and more transparent government.

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APPENDICES

8.1 Appendix A – Sample of Western European countries and local governments

	COUNTRY	CITY	OFFICIAL NAME	WEB
1	AUSTRIA	Vienna	Magistrat der Stadt Wien	www.wien.gv.at
2		Graz	Magistrat Graz	www.graz.at
3		Linz	Magistrat Linz	www.linz.at
4		Salzburg	Stadt Salzburg	www.stadt-salzburg.at
5		Innsbruck	Stadt Innsbruck	www.innsbruck.at
6	BELGIUM	Antwerpen	Stad Antwerpen	www.antwerpen.be
7		Gent	Stad Gent	www.gent.be
8		Charleroi	La Ville de Charleroi	www.charleroi.be
9		Liège	Ville de Liège	www.liege.be
10		Brussels	City of Brussels	www.brucity.be
11	DENMARK	Copenhagen	København Kommune	www.kk.dk
12		Aarhus	Arhus Kommune	www.aarhuskommune.dk
13		Aalborg	Aalborg Kommune	www.aalborgkommune.dk
14		Odense	Odense Kommune	www.odense.dk
15		Esbjerg	Esbjerg Kommune	www.esbjergkommune.dk
16	FINLAND	Helsinki	Helsingin kaupunki	www.hel.fi
17		Espoo	Espoon kaupunki	www.espoo.fi
18		Tampere	Tampereen kaupunki	www.tampere.fi
19		Vantaa	Vantaan kaupunki	www.vantaa.fi
20		Turku	Turun kaupunki	www.turku.fi
21	FRANCE	Paris	Mairie de Paris	www.paris.fr
22		Marseille	Mairie de Marseille	www.marseille.fr
23		Lyon	Mairie de Lyon	www.lyon.fr
24		Toulouse	Mairie de Toulouse	www.toulouse.fr
25		Nice	Mairie de NICE	www.nice.fr
26	GERMANY	Berlin	Stadt Berlin	www.berlin.de
27		Hamburg	Stadt Hamburg	www.hamburg.de
28		Munich	Stadt Munchen	www.muenchen.de
29		Köln	Stadt Koln	www.stadt-koeln.de
30		Frankfurt	Stadt Frankfurt	www.frankfurt.de
31	GREECE	Athens	Δήμος Αθηναίων	www.cityofathens.gr
32		Thessaloniki	Δήμος Θεσσαλονίκης	www.thessaloniki.gr
33		Patras	Δήμος Πατρέων	www.patras.gr
34		Heraklion	Δήμος Ηρακλείου	www.heraklion-city.gr
35		Volos	Δήμος Βόλου	www.volos-city.gr

36	IRELAND	Dublin	Dublin City Council	www.dublincity.ie
37		Cork	Cork City Council	www.corkcorp.ie
38		Galway	Galway City Council	www.galwaycity.ie
39		Limerick	Limerick City Council	www.limerickcorp.ie
40		Waterford	Waterford City Council	www.waterfordcity.ie
41	ITALY	Rome	Comune di Roma	www.comune.roma.it
42		Milan	Comune di Milano	www.comune.milano.it
43		Naples	Comune di Napoli	www.comune.napoli.it
44		Turin	Comune di Torino	www.comune.torino.it
45		Palermo	Comune di Palermo	www.comune.palermo.it
46	LUXEMBOURG	Luxembourg	Ville de Luxembourg	www.luxembourg-city.lu
47		Esch-sur-Alzette	Adm.Communale de la Ville d'Esch-sur-Alzette	www.esch.lu
48		Differdange	Mairie de Differdange	www.differdange.lu
49		Dudelange	Administration de la Ville de Dudelange	www.dudelange.lu
50		Pétange	Administration Communale de Pétange	www.petange.lu
51	NETHERLANDS	Amsterdam	Gemeente Amsterdam	www.amsterdam.nl
52		Rotterdam	Gemeente Rotterdam	www.rotterdam.nl
53		The Hague	Gemeente Den Haag	www.denhaag.nl
54		Utrecht	Gemeente Utrecht	www.utrecht.nl
55		Eindhoven	Gemeente Eindhoven	www.eindhoven.nl
56	PORTUGAL	Lisbon	Cámara municipal de Lisboa	www.cm-lisboa.pt
57		Oporto	Cámara municipal do Porto	www.cm-porto.pt
58		Vila Nova de Gaia	Cámara municipal de Gaia	www.cm-gaia.pt
59		Amadora	Cámara municipal de Amadora	www.cm-amadora.pt
60		Braga	Cámara municipal de Braga	www.cm-braga.pt
61	SWEDEN	Stockholm	Stockholms Stad	www.stockholm.se
62		Göteborg	Göteborgs Stad	www.goteborg.se
63		Malmö	Malmo Stad	www.malmo.se
64		Uppsala	Uppsala Kommun	www.uppsala.se
65		Linköping	Lidköpings Kommun	www.lidkoping.se
66	SPAIN	Madrid	Ayuntamiento de Madrid	www.munimadrid.es
67		Barcelona	Ayuntament de Barcelona	www.bcn.es
68		Valencia	Ajuntament de Valéncia	www.valencia.es
69		Sevilla	Ayuntamiento de Sevilla	www.sevilla.org
70		Zaragoza	Ayuntamiento de Zaragoza	www.zaragoza.es
71	UK	London	London City Council	www.london.gov.uk
72		Birmingham	Birmingham City Council	www.birmingham.gov.uk
73		Glasgow	Glasgow City Council	www.glasgow.gov.uk
74		Leeds	Leeds City Council	www.leeds.gov.uk
75		Manchester	Manchester City Council	www.manchester.gov.uk

8.2 Appendix B – Independent variables

	Northern countries											Southern countries			
	IR	UK	DE	FI	NE	SW	AU	GE	BE	FR	LU	IT	SP	PO	GR
1. Inhabitants	Min: 45,748; Max: 3,431,675; Mean: 739,005; Std. Dev.: 831,510														
2. E-gov offer	Min: 27.3%; Max: 77.4%; Mean: 54.5%; Std. Dev.: 0.0969														
3. E-gov 2.0	Min: 7.7%; Max: 61.5%; Mean: 28.7%; Std. Dev.: 0.1556														
4. Activity	Min: 0; Max: 21.6087; Mean: 2.5075; Std. Dev.: 3.1914														
5. Engagement	Min: 0; Max: 62.9581; Mean: 8.3662; Std. Dev.: 12.1470														
6. Audience	Min: 77; Max: 1,957,191; Mean: 74,007; Std. Dev.: 287,572														
7. Internet	77	82	90	89	92	91	80	83	78	80	91	57	68	55	53
8.E-government demand	49	43	81	70	62	78	53	51	50	61	61	19	45	39	34
9. SM demand	46	57	55	49	46	54	37	34	49	33	50	29	43	45	32

NOTES:

2. Level of development of e-government in the local government: data obtained from Pina et al. (2009). These scores refer to four basic website dimensions: transparency, interactivity, usability and maturity. Due to differences in the cities analyzed, we have five missing values for this variable.

3. Level of adoption of Web 2.0 and social media tools by the local government: data obtained from Bonsón, et al. (2012). These scores are based on the analysis of both the official website and the active presence of each local government in the major social platforms.

7. Internet penetration: Percentage of Internet users in the country. International Telecommunication Union (Sep 2011): "World Telecommunication/ICT Indicators". Available at: http://www.itu.int/ITU-D/ict/statisTIC/ [Last accessed 3 April 2013].

8. E-government use by citizens: Percentage of individuals who have used the Internet for interaction with public authorities (in the last 12 months) (2012). Available at: http://ec.europa.eu/eurostat [Last accessed 3 April 2013].

9. Social media use by citizens: Percentage of individuals that have used the Internet, in the last 3 months, for posting messages to social media sites (2012). Available at: http://ec.europa.eu/eurostat [Last accessed 3 April 2012].