An integrated conceptualization of content in an information society

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Abstract
Content is the origin of communications. It is also one of the key indices in the evaluation of societies’ economic development. However, review of the literature reveals no agreed conceptualization of content. Lack of consensus regarding the definition of content, on the one hand, coupled with its significant role as a developmental determinant for an information society, on the other, were motives behind the proposed integrated definition of content presented in this study. Our suggested conceptualization of content is referred to as “Triple Cs”, and is composed of 3 elements: (1) cerebral process, (2) conduit(s), and (3) conduitee.

Keywords
cerebral process, conduit, conduitee, content, information society

Introduction
In the information economy era, a progressive society experiences steady growth, not only in expenditure for technology, but also in production of high-quality content (Kuk, 2002; Kabulov et al., 2010). Actualization of the advantages of information society is dependent upon the development of infrastructure and content (Gupta and Arora, 2009). This dual development is a major driving force for a country’s growth within a digital environment (World Economic Forum, 2013), and has been recognized as a key index of bridging the digital divide in the literature (Alam and Ahsan, 2007; Barzilai-Nahon, 2006; Choudrie et al., 2005; Hanafizadeh, 2011; Hohlfeld et al., 2008; Mutula and Brakel, 2006; Rao, 2005; Orviska and Hudson, 2009; Salajan et al., 2010; Tien and Fu, 2008; Waycott et al., 2010; Yfantis et al., 2012).

In regards to the noteworthy role of content alongside infrastructure, Ireland in 2002, for example, proposed the strategy of national content within a technological development framework (Cassells, 2002). Furthermore, in 2005, the European Commission planned to create digital content that is more accessible and usable in geographic, educational, cultural, and scientific areas. This plan shows the importance of content within a knowledge based economy and innovations within an information society (European Commission, 2005). In this respect, the governments of Australia, England, the United States, Canada, Germany, Denmark and New Zealand shed light on the importance of both content and digital technologies through their respective strategies (Collections Council of Australia Ltd., 2007; Danish Ministry of Culture, 2002; Federal Ministry of Economics and Technology, 2006; Library of Congress, 2002; Library and Archives Canada, 2007; New Zealand Government, 2007; Prime Ministers Strategy Unit 2005).

Individuals communicate with each other through their speech, writing, and other intellectual productions, which can all be considered as types of content.

There are various manifestations of content present in the literature. Some scholars consider content as
registered knowledge or information. Others believe that if data, information, or knowledge is not in a digital format, then it cannot be considered as content. Siemens (2003), for example, is a proponent of this approach. He only views electronic journals, pictures, movies, websites and online databases, emails, online news, software, and animations as content. Some refer to content in its general sense, e.g. “the things that are held or included in something” (Borgman, 1997; Trippe, 2001), while others use the term “stuff on your site” to describe content (Beasley, 2013; Claiborne, 2005; Craig, 2013; Koehler, 1999; McCray and Gallagher, 2001; Yeh et al., 2000). Finally, there are scholars who do not differentiate between media and content (Lucchi, 2007). For instance, computers, cell phones, websites, blogs, social networks, electronic files, email, digital libraries, TV, radio, newspaper, etc. are sometimes mistakenly referred to as content. Today, however, the emphasis is not on a conduit or a container, but rather on the content within a container. Certainly, content is different from media (Mutula, 2010). Overall, it is clear that there is no consensus on the definition of content, and different studies view it from their own perspective.

In order to consider content as one of the four major components of a country’s development within a digital environment (World Economic Forum, 2013), a comprehensive definition seems necessary. To this end, as a first step, the current study synthesized characteristics of content by conducting a thorough review of the literature. Next, considering the role of content in the information society, we proposed our theoretical framework, namely, Triple Cs, which is made up of three interconnected elements: (1) cerebral process, (2) conduit/container or channel (3) and conduitee or audience.

This paper is structured in the following manner: Section 1 presents definitions of content and different conceptualizations appearing in the literature. Section 2 includes our integrated conceptualization of content based on the synthesis introduced in the previous section. The Discussion Section focuses on examples from the real world to explain our modern conceptualization of content within the context of an information society. Finally, conclusions are presented.

**Content**

Content is a general term, which is used differently depending on prevailing contexts. Various keywords were observed in the literature referring to the same concept, ranging from such terms as: content, conduit, intellectual process, e-content, digital content, digital economy, information society, to ICT. The current study used the above keywords to conduct the literature review. We mainly focused on Scopus, IGI-Global, Science Direct, and Google databases (IGI-Global and Science Direct were considered separate from Scopus because some publications, e.g. a number of books, have not been indexed in Scopus).

While Mutula (2010) considers content as a cerebral or an intellectual process, other research points to its properties, (Beasley, 2013; Claiborne, 2005; Craig, 2013; Koehler, 1999; McCray and Gallagher, 2001; Yeh et al., 2000) describing content as a purposeful, accessible, and understandable artifact. There is also an approach viewing content as a means of value creation, putting a lot of weight on the conduitee. Such a view considers content as a means of producing value for the target audience. There are also studies approaching content as a type of product, process (procedure), or service (Ballantyne, 2002; Bertrand et al., 2010; Kabulov et al., 2010; Mégnigbêto, 2010; Tella et al., 2012). Mutula (2010) considered these content types to be an output of an intellectual process. Some researchers also include conduitee (Akehurst, 2009; Krueger and Swatman, 2003; New Zealand Government, 2007; Redish, 2007; Weiss and Datta, 2002; Zhang et al., 2014), or even conduit, in their conceptualization of content (Dimitrova et al., 1998; Huizingh, 2000; Na et al., 2009; Stiller et al., 2004). The rest of this section elaborates on each of the aforementioned approaches towards content.

**Content as cerebral (intellectual) process**

Mutula (2010), to the best of our knowledge, represents the only study that clearly lies in this category. In his research, Mutula identified content as an intellectual process resulting in an outcome in the form of a product, procedure, or service. In line with this approach, a product (e.g. knowledge, information, a piece of music, system, etc.), a process (e.g. an algorithm, work flow, etc.), or a service (e.g. news, presentation, animation, etc.) is a manifestation of a series of human-based mental activities, referred to as content.

It is noteworthy that both the sender (e.g. human resources of goods manufacturers and service employees) and the receiver (e.g. user or customer) of content are involved in mental processes in order for value or content to be created through products, procedures and service offerings. Employees are
engaged in cognition required for work procedures and tasks to produce goods and services. They are also cognitively influencing content formation when interacting directly with customers or users. Similarly, users or customers are involved in information processing and intellectual activities when using products, tools or service offerings, or when interacting with service employees. In other words, customers or users in general associate a meaning or a value to content, or they co-create content through cognition and understanding of procedures, products and service offerings.

**Content as a conduit**

Some believe that if data, information, or knowledge is not in a digital format, then it cannot be considered as content (e.g., Codex.wordpress.org). Such studies consider content only as texts, images, animations, graphs, and videos available on the Internet (Curtis and Draper, 1999; Dimitrova et al., 1998; Fox and Marchionini, 1998; Hahn and Romacker, 2000; Heitmann, 1999; Mintzer, 1999; Takeuchi et al., 1998; Utvich, 2005; Wu and Liu, 2001; Xu and Wu, 2000; Yeo and Yeung, 1999). Some have a broader view of digital content by considering it to be anything present on a website (Beasley, 2013; Claiborne, 2005; Craig, 2013; Koehler, 1999; McCray and Gallagher, 2001; Yeh et al., 2000).

In this respect, Huizingh (2000), for example, identified content as information, property, and services offered by websites. Furthermore, in a content analysis of psychologists’ research experiences, Peden and Flashinski (2000) made mention of content as information, experiences/knowledge, and images on a web page. As another example, Stiller et al. (2004) referred to content as a digital source of wealth and value generation in a digital economy. According to Stiller et al. (2004), digital content is a form of information, service, or product that can be sold through the Internet. Similarly, Na et al. (2009), in designing a secure method for digital content, considered content as information offered to the users through the web.

As can be seen, the above-mentioned conceptualizations of content implicitly include a conduit (the Internet) as an inseparable element of content. By pointing to the Internet as an infrastructure required for the digital transfer of data, information, or knowledge, studies in this stream indirectly put a lot of weight on the role of a communication channel or a conduit when discussing content.

**Content as conduitee**

In addition to the approaches towards content discussed above, there are studies focusing on the important role of a user of content, or a conduitee, as a determinant for the nature of content. This group of research identifies content as useful information that can create value for a particular conduitee in a particular situation. Weiss and Datta (2002), for example, view content as pieces of information, including files, databases, images, and applications that create added value for the organization and its users. As another example, Krueger and Swatman (2003) highlight the role of conduitee by considering content as a type of information, service, or product placed on the web to be offered or sold to customers. Accordingly, for information to be considered as content, it should be obtained and used by an individual. In other words, content is information organized for a specific goal and for a particular target user (Boiko, 2005). There are also definitions (e.g., Word Factory, 2011) which add to the conceptualization above by approaching content as a means of offering information through a certain conduit for a particular conduitee who has a particular need.

A strong focus on users can also clearly be observed in the content development strategy offered by the New Zealand government. In this strategy, digital content involves any accessible information that is used, saved, or shared by users in a digital format (New Zealand Government, 2007). Similarly, Rahimnia and Hassanzadeh (2013) shed light on the users’ influence over electronic content generation by studying the impact of users’ trust on the effectiveness of electronic marketing (content).

People visit websites to gain access to information they need. They look for answers to their questions, solutions to their problems, or instructions to conduct a particular task. That is to say, they look for useful content, which can be understood and put into practice (Akehurst, 2009; Leibtag, 2013; Redish, 2007; Zhang et al., 2014). In other words, content is a type of information that is organized and ordered in a particular format with the purpose of solving a user’s problem, answering a user’s question, or guiding a user’s performance.

As can be seen, proponents of this approach consider the nature of content to be variable and adaptable to the users’ needs and expectations. Accordingly, one can argue that information can be translated into different content by different users who have different specifications and goals in mind. The nature of
content may vary for different users depending on their mindset; their particular goals and needs; their particular skills and abilities to use a piece of digital information, a digital product, or an electronic service; and their level of access to such offerings. In other words, digital content may have different meanings or value for different users with different expectations, characteristics and situational constraints.

**Triple Cs: An integrated conceptualization of content**

In an information society, data, information, and knowledge are known to comprise the main body of content transmitted by verbal and nonverbal cues through communication channels. Recent research, however, suggests that communication can also occur
when other types of content are exchanged (Leibtag, 2013). Goods manufacturers and service providers, for example, not only communicate their promises to customers, but they also offer content through their products and services. Such content is not necessarily viewed as information. This content can be value created for customers through physical as well as digital procedures, deeds, and tools (Business Dictionary; Day, 2008; Mutula, 2010; Stiller, 2004; Word Factory, 2011).

The current research suggests that procedures, acts, and tools cannot be considered as content per se, but rather that such elements as processes, services, and products are means of content generation and value co-creation. This is in line with Mutula (2010), in which content had a broader meaning and was approached as an outcome or a consequence of cerebral processing of tangible and intangible cues.

Furthermore, content viewed as an outcome of intellectual and cognitive processes highlights the important role of the human element. Accordingly, a content creator on the one side and a content receiver (co-creator) or a conduitee, on the other side, both play important roles in content generation (Boiko, 2005; Leibtag, 2013; Word Factory, 2011). In other words, senders and receivers of content influence the nature of content through their context-specific expectations, attitudes, and behaviors, as well as their characteristics.

One of today’s challenges for effective and efficient content provision in an information society is to identify conduitees’ context-specific needs and to adapt digital information, products, and services to offer useful content which can address those changing needs (Schaeffler, 2008; Word Factory, 2011). To facilitate customized content generation, it is important to know who the conduitees are, what their geographical location is, what their needs are, what they want to achieve by using the content, how much money, time, and effort they are willing to spend to use the content, what their likes and dislikes are, what their values and expectations are, what characteristics they have, and what communication channels they prefer to use (Leibtag, 2013). For example, by identifying conduitees’ needs and specifications, more customized decisions regarding the form of content in terms of being a video, audio, text, logo, or an image can be made (Landy and Mastrobattista, 2008; Schaeffler 2008).

To sum up, our synthesis of the literature concludes that (1) cerebral processing of products and services carried out by senders and receivers, (2) conduitees’ needs and specifications, and (3) conduits all play an important role to produce content and generate value (see Figure 1). Accordingly, we conceptualized content as an outcome of human-based cerebral processing of procedures, services, and products, which are accessible through a particular conduit for the purpose of value co-creation by conduitees.

It is noteworthy that the 3 main components explicitly present in our proposed conceptualization of content (i.e., cerebral processes, conduitee, and conduit) comprehensively constitute the meaning of content. The current research suggests that a fail point

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**Figure 1.** Triple Cs in integrated definition of content.
associated with each of these three components may result in a failure of content generation and value co-creation. Therefore, for purposeful content to be generated, each of these three elements should be the centre of attention for service providers and goods manufacturers in an information society. That is to say, it is important to know what services, products, or processes should be offered to which type of users in which situation and through what combination of channels.

**Implications for practice**

To further clarify our proposed conceptualization of content, and to elaborate on each of its three constituents, the rest of this study discusses examples from e-banking, e-commerce, and e-learning contexts, respectively.

**Content in e-banking**

Content is one of the determinants of customer satisfaction and a driver of repeated use for e-banking services (Jayawardhena and Foley, 2000; Ma and Zhao, 2012; Pikkarainen et al., 2004; Poon, 2008). Check amount confirmation, for instance, is an e-banking service. After issuance of a check, a customer is involved in service production by registering the amount on the check through mobile-banking or Internet-banking systems. Customers are required to carry out these information processing procedures so that the check holder can cash the check. In addition to the above cerebral processes carried out by a customer, banks are also engaged in the following intellectual activities: (1) identification and investigation of problems (customers’ needs), (2) searching for possible solutions, (3) selecting the best possible solution, and (4) offering services (solutions) according to standards.

The result of the cerebral processes conducted by employees and customers (conduitees) represents a meaningful and useful content or value, which is delivered through mobile banking or Internet banking service delivery channels (conduits).

**Content in e-commerce**

One of the promotions offered by electronics stores to customers include discounts based on a customer’s frequency of shopping behavior. Such promotions could be considered as a type of content, being offered to customers by a retailer in an online context. To create such a value or content for customers, employees are engaged in cerebral activities such as understanding and studying market needs, searching for means to attract the target market (investigating solutions to address customer needs), offering tools and promotions to address their needs, and communicating the offerings and promotions to customers through their channels. Meanwhile, customers process such offerings and evaluate them based on their needs, context-specific preferences, and goals. The resulted value or content in this context is the opportunity to purchase goods or services at a lower price, offered via an electronic store’s web site (conduit) to the customers (conduitee).

It is noteworthy that for a promotion to be translated into content or value, customers should evaluate the offering as useful and as being something that addresses their needs. As seen in the above example, the nature of content may vary depending on how a conduitee evaluates and understands an offering based on his/her goals and preferences. For a certain customer, discounts for a particular product may be of high value and therefore be worth paying attention to. For another individual, however, such an offering may be ignored because the promoted product has little or no utility to him/her.

**Content in e-learning**

E-learning provides another context that can further clarify our Triple Cs conceptualization of content. The literature shows that e-learning provides more comprehensive learning resources and more flexible approaches to learning in general than non e-learning methods (Yang, 2012). In addition to providing access to ample learning materials and resources, the Internet and e-learning websites (conduit) make learning and teaching feasible anytime and anywhere for both students and instructors (conduitees). E-learning facilitates information exchange between students and professors regardless of geographical location or time constraints (Hanafizadeh et al., 2011).

When discussing cerebral processes in which administrative staff and faculty members act as representatives of an educational service provider, one can mention topics such as: preparations for teaching, learning how to produce appropriate documents, and the presentation of documents within a virtual learning environment. In contrast, reading instructions; listening to lectures; studying digital materials including
texts, images, videos and audios; interaction with students and instructors through e-learning platforms; submitting assignments online; and taking online exams could all be examples of intellectual tasks and mental activities that students are involved in.

In order for online learning resources, tools, and service offerings to produce value (i.e., learning in this context), it is important that they fit the users’ (conduitees) specifications. As was mentioned before, the outcomes of cerebral processes are influenced by the conduitees’ (here students and instructors) characteristics, goals, and expectations. Hence, for online learning resources and tools to facilitate value (content) creation, they need to be tailored to the specific needs and characteristics of both students and instructors. In this respect, appropriateness of the conduit to users’ preferences, skills, and abilities also plays an important role for value generation or actualization of effective and efficient learning in an information society.

Conclusions
Content is the origin of communication, and it can be considered a major source of development within an information society. Therefore, it is important to have a clear picture of the nature of content and its constituents. To this end, the current study conducted a literature review of 65 studies, and then proposed a comprehensive conceptualization of content.

Our conceptualization, called Triple Cs, highlighted the concurrent role of conduits, conduitees, and cerebral processes to influence the nature of content. This study suggested that content is generated as a result of human-based intellectual processing of tools, procedures, and service offerings available through different conduits. We also suggested that to create meaningful content for users, or in other words, to generate value in an information society, it is important to identify users’ needs and specifications and tailor the products and service offerings, as well as channels delivering such offerings, accordingly.

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