Virtual Group Dynamics and Social Networks

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Dr. Andrea Guazzini
Department of Education and Psychology
and Centre for the Study of Complex Dynamics (CSDC)
University of Florence

Contacts
e-mail: andrea.guazzini@unifi.it - andrea.guazzini@gmail.com
website: http://virthulab.complexworld.net/

Virtual Communty Participation and Motivation

Participation in Online Communities

Virtual Communities: participation

Kollock and Smith (1996) have noted that online communities are subjected to a public good dilemma meaning that an individual using a public good (e.g., knowledge contribution) does not undermine the ability of others to use the same resource. *While active participation in online communities demands participants' time, energy, effort and knowledge, accessing the contributions provided by active users tend to be costless.*

- Because participation in online communities is ften open and voluntary, ***there is no assurance for contributors*** that those they are helping will ever contribute ***anything in return*** (Rheingold, 1993)
- ***Members' willingness to contribute*** their time, energy, knowledge and emotional encouragement, is sustained only when the ***perceived or imagined benefits of participating have a greater value than the perceived costs*** (Tiwana and Bush, 2005; Butler et al., 2007; Wang, 2007)
- Within this scenario, ***Free Riders*** is a lable indicating those individuals that have the privilege of benefiting from others' contributions, and at the same time avoiding the costs associated with active participation.

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Virtual Communities: participation

A large body of literature have investigated what motivates people to contribute with their effort, time and knowledge (Butler, 2001)

- *Individual-related motivations* such as personal benefits, needs, attitudes, etc
- *Community-related factors* focusing on aspects such as shared norms, shared purposes, share identity, trust and social capital
- *Structural characteristics of these communities* *such as community size, membership, roles*
- *Technology related issues*
- *Context related factors* including those aspects such as competition between online communities, cultural differences and the environmental and organizational issues affecting member's online community particpation.

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Virtual Communities: motivation based participation

Individual-related motivations

- ***Self Interests*** and unless tangible or intangible returns are in place, people will not be willing to participate (Wasko & Faraj, 2000)
- Members are more likely to participate when tey receive extrinsic rewards such as ***personal Information benefits*** (Wasko & Faraj, 2000; Ardichcili et al., 2003)
- ***Economic Incentives*** (Lerner & Tirole, 2002; Kankanhalli et al., 2005; Bjorkeing et al., 2009)

Community related Factors

- Previous studies suggested that when knowledge is seen as a public good owned and maintained by the community members, participation in online communities will not be motivated by self-interest but by community interests (e.g., ***altruism, reciprocity, sense of community, identify and norms, and moral obligation***. (Wasko & Faraj, 2000; Bruce et al., 2005; Zhou, 2011)

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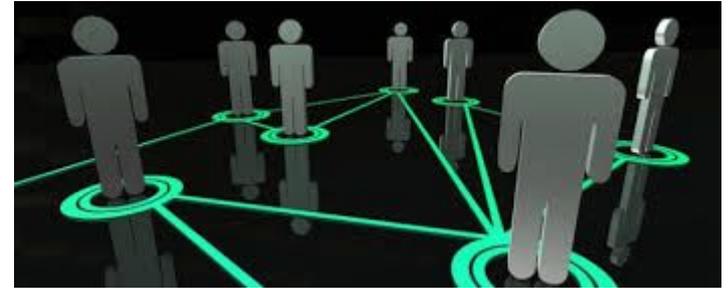
Continuous Knowledge: Sharing in Online Social Network Communities (OSN)

An online group become an "online communty" when the interaction and togetherness between group members lasts long enough to form a set of habits and conventions (Lee & Lee, 2010)

- **OSN have become the major venue for locating content**, with 4 out of 5 photos on the web are located on them (Mislove, 2009).
- The **value of OSN depends on the levels of members involvement and engagement** in knowledge sharing activities (Hsu, et al., 2007)

Continued participation in knowledge sharing through social networking services is not about initial adoption, it is about people's continued involvement in a complex IT platform post-adopting a core set of technologies for social interactions and information exchange

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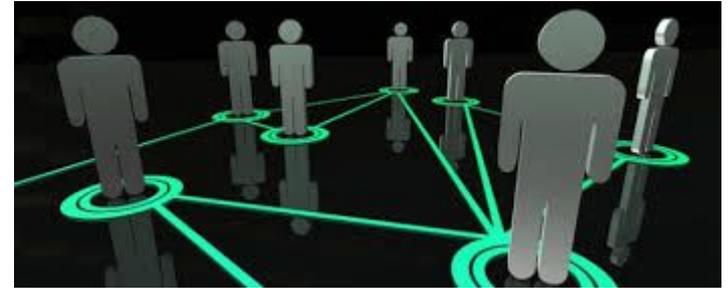
Continuous Knowledge: Sharing in Online Social Network Communities (OSN)

Previous studies have differentiated the continuance intention to Information Systems (IS) usage from initial adoptions (Bhattacherjee, 2001; Chiu et al., 2005; Hont et al., 2006; Jasperson, et al., 2005) and investigated the importance of the role of social factors in facilitating continuance intentions to participate in knowledge sharing in online community.

- In community of transaction or community of consumption there are factors such as ***sociability*** (Kim, et al., 2008), ***shared vision and trust*** (Wang et al., 2009).
- In community of practice there are three dimensions of ***social capital factors*** (Wasko et al., 2005; Chiu et al., 2006)
- In professional virtual communities for expertise sharing, there are factors such as ***norms of reciprocity*** and ***trust*** (Lin et al., 2009), and ***social intercation ties*** (Chen, 2007)

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Virtual Communty Participation and Motivation

Participation in Online Communities

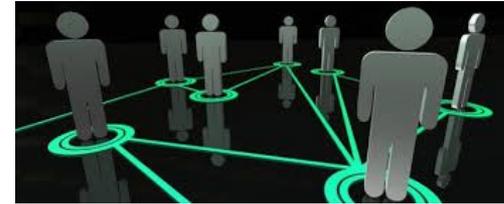# Continuous Knowledge: Sharing in Online Social Network Communities (OSN)

The role of Social Capital plays in facilitating knowledge sharing has been heavily illustrated in recent years (Adler et al., 2002; Chen, 2004., Chiu et al., 2006; Hsu et al., 2007; Koka et al., 2002; Mu et al., 2008; Tseng et al., 2010)

From the **Social Capital Theory** perspective, there are three dimensions of social capital factors : the **Structural**, **Relational**, and **Cognitive** dimensions (Nahapiet & Ghoshal, 1998).

- **The Structural dimension** of SC refers to the overall pattern of connections between actors. The most salient manifestations of this dimensions are:
  - **Network ties**, such as strong and weak ties
  - **Network morphology**, of configuration, describing the pattern of linkages in terms of such measures as density, connectivity, and hierarchy.

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Continuous Knowledge: Sharing in Online Social Network Communities (OSN)

From the **Social Capital Theory** perspective, there are three dimensions of social capital factors : the **Structural**, **Relational**, and **Cognitive** dimensions (Nahapiet & Ghoshal, 1998).

- **The relational dimension** of social capital refers to the assets created and leveraged through relationships such as respect and friendship, which bond the actors together and influence their behaviour. The most important facets of this dimension are:
  - **Trust** and **Trustworthiness**
  - **Norms** and **Sanctions**
  - **Identity** and **Identification**

- **The cognitive dimension** of social capital refers to those resources that provide shared representative actions, interpretations, and systems of meaning among parties. The most representative facets include:
  - **Shared language** and **codes**
  - **Shared narratives**

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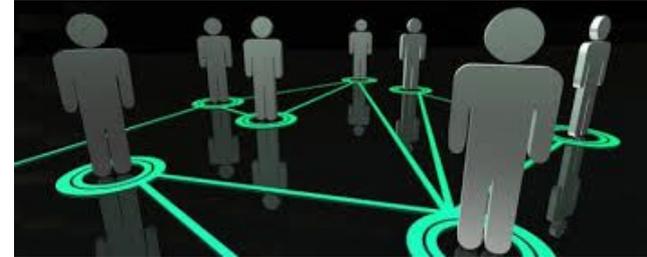
Linking SNS features to Social Capital Factors

SNS websistes are web-based services that allow individuals to (Boyd & Ellison, 2008):

1. *Construct a public or semi-public profile* within a bounded system
2. *Articulate a list of other users* with whom they share a connection
3. *View and traverse their list of connections* and those made by others within the system

What makes social network sites unique is not that they allow individuals to meet strangers, but rather that they enable users to articulate and make visible their social networks.

*   Finally, technology artifacts in OSN sites deal with five indispensable elements:
    a. *Individual Users*
    b. *Groups*
    c. *Social connections*
    d. *Content*
    e. *Communication*

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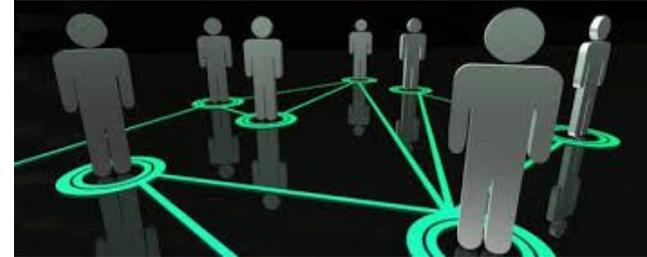
Linking SNS features to Social Capital Factors

The most frequently mentioned social mechanisms supported by the SNS applications are:

1. *Social presence* within a virtual environment
2. *Transactional control of communication*
3. *Social connectivity*

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Linking SNS features to Social Capital Factors
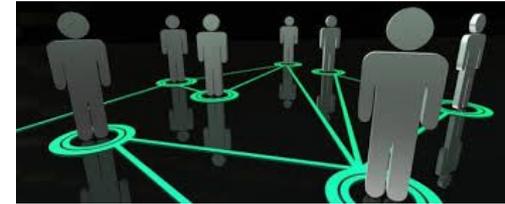
Social Presence

The term **Social Presence** is defined as **the degree to which a medium facilitates awareness of the other person and interpersonal relationships during the interaction** (Fulk, Schmitz, & Steinfield, 1990). The social presence theory postulates that:

- **The inability of mediums to transmit nonverbal cues has a negative effect on interpersonal communication** (Short, Williams & Christie, 1976)
- **Offline interaction helps virtual community members** understand, trust, and identify with one another providing a tronger base for online community (Koh, et al., 2007)
- The **Media Richness Theory (MRT) posits that rich communication channels can bridge different frames of reference and make issues less ambiguous,** supporting higly affective interpersonal interactions (Daft & Lengel, 1986; Roberts, Lowry & Sweeney, 2006)

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Participation in Online Communities

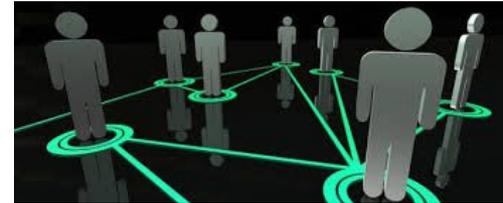## Linking SNS features to Social Capital Factors

Social Connectivity

Computer mediated communication networks can create communities based on interest "rather than by geography, social position, and prior acquanintance", thus creating a significant impact on online social group connectivity (Culnana, Markus, 1987; Haythornthwaite, 2005).

- Social connectivity through OSN sites *facilitates the latent tie connectivity* on which weak and later strong ties may grow (Haythornthwaite, 2005)
- In the *Latent Tie Theory* latent ties refer to social ties that are technivally possible but not yet activated socially (Haythornthwaite, 2002)
- The social connectivity through OSN sites *facilitates the effectiveness of communication.* For instance, a network generalized exchange (e.g., blogging site) is a more effective structure than group-generalized exchange (e.g., mailing list) (Sohn et al., 2007)

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- **Social connectivity and behaviour diffusion in OSN is initiated in a flourishing way.** As our needs begin to change, so do our online communities, and for this reason exclusively SNS such as Facebook emerged (Olaniran, Williams, 2009)
- Why can such influence be created by a SNS like Facebook?
  - *Individual adoption* is much more likely when participants receive social reinforcement from multiple neighbours in the social network
  - *The behavour spreads* farther and fasters across clustered-lattice networks than across corresponding randoim networks.

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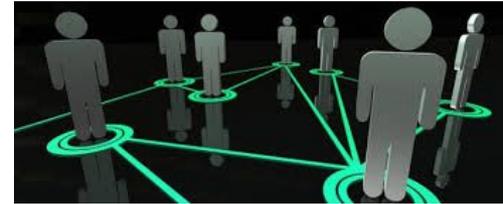
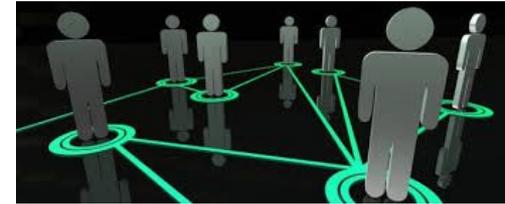## Linking SNS features to Social Capital Factors

Transactional Control of Communication

The concept of transactional control of communication is rooted in the learning literature, e.g. Transactional Distance Theory (Moore, 1972)

- Theory posits that **when the communication between instructor and leraner increases, their transactional distance decreases** (Moore & Kearsley, 1996)
- Sccording to constructivists, **how learners choose to learn is considered to be a direct consequence of the level of choice** they are given in learning (Olaniran & Williams, 2009)
- Therefore, incorporating features and functionalities that can **provide extensive scaffholding to learning environments, the learners' autonomy can be promoted,** and thus the learning transactions between the instructor and learners can be enhanced (Jung, 2001, Vovides, et al., 2007)
- **A greater use of both asynchronous and synchronous communication** via the use of social software tools is likely to enhance social interaction within an online learning cpmmunity and thus facilitate a sense of community (McInnerney, Roberts, 2004)

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Linking SNS features to Social Capital Factors

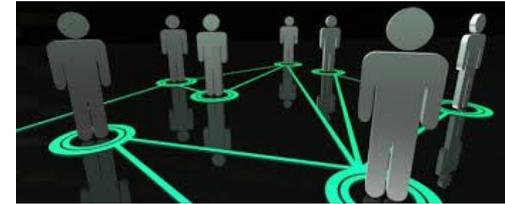### *Features Support Structural Social Capital Development*

Structural social capital development relates to the formation and strengthening of network ties and configuration.

- *New media features* for structural social interaction *induce social change by enabling new forms of communication* and cultivating distinctive skills and sensibilities (DiMaggio et al. 2001)
- Example, the *social browsing and social search features make the maintaining of social ties cheap and easy,* by means of "remove barriers to interaction" or "expanding interaction networks" (Resnick, 2002)
- *Social recommending feature* based on user data analysis s*uggests opportunities for establishing social ties.*
- *The awareness feature* on SNS automatically reminds individuals if their friends are in the same virtual place, thus creating a *virtual co-presence among individuals* who have already built up a social tie.
- *The member-centered or topic centered-spaces allows individuals to become "boundary spanners", "roamers",* or *"out-posts"* who take care of various facets of social network configurations (Wenger, 1998)

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Linking SNS features to Social Capital Factors

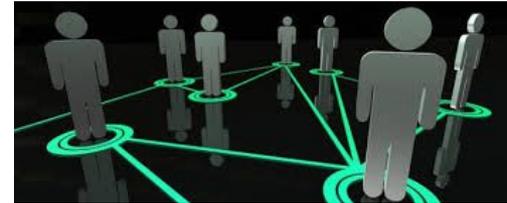### *Features Support Relational Social Capital Development*

Although there are several sub-dimensions of relational social capital, their developments are not directly supported by SNS features. However, SNS may take part in the control or manipulating of the process.

- Certain SNS features are related to the control or communication of identity. Interactions where people are not informed about each other's identity can sometimes allow people to ***transcend their stereotypes or take productive risks*** (Turoff, 2001)
- The suppression of certain sensory information (e.g., smell, tone of voice, facial expression) can, in some circumstances, ***allow people to transcend emotional reactions that would interfere with collaborating with each other*** (Resnick, 2002)
- Acess controls are another example of restricting information flows (Resnick, 2002):
  - ***It can create a sense of boundaries*** reducing the risks of particpation and fostering a group identity among those who do no have access
  - ***According people different access privileges can reify roles***
- ***Reciprocity can be facilitated by dependency management,*** such as the notification feature. For example calendar programs remind people of appointments.

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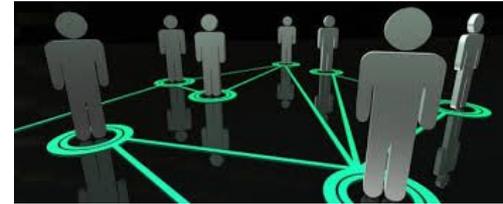## Linking SNS features to Social Capital Factors

Features Support Cognitive Social Capital Development

Cognitive social capital development relates to the enhancement of shared language, codes, and narratives.

- On of the SNS features is the "Explicit Feedback" where individuals comment on the quality of each others' posts in an explicit way (e.g., tagging, share amd like buttons on facebook). Such activities can ***promote the publicity and diffusion of the posts,*** and this direct other members to view the same narratives

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Linking SNS features to Social Capital Factors

### *Features Support Multi-Dimensional Social Capital Development*

Some features support multi-dimensional social capital development. For example, the features that support history maintaining make the residuals of previous interactions visible.

- These features can be useful in several ways, including:
    - *Presenting a cognitive map to new members*
    - *Contributing to the development of roles and a sense of collective identity* (people can reflect on past patterns of interactions)
    - *Contributing to the development of to trust* (the visibility of interaction logs and explicit feedback can create accountability)

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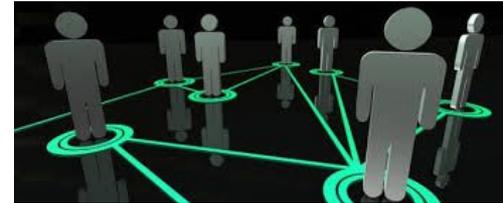
Linking Social Capital Factors to Motivations

Motivation ia s psychological state, whereas actual behaviour is the outcome of that state (Mitchell & Daniels, 2003)

Self-related motivational antecedents

The self related motivations derive from a core set of individual needs tath the user wants to fulfill. Applied to the use of Online Social Networks these needs include:

1. ***The Information need***
2. ***The Instrumental need***
3. ***The Self-discovery need***
4. ***The entertainment need***

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Linking Social Capital Factors to Motivations

Self-related motivational antecedents

Information Need

- The information need are derived from ***getting and sharing information in the virtual community,*** such as the needs of information retrieval, information giving, and conversation capabilities (Flanagin & Metzger, 2001)

Instrumental Need

- The instrumental need is derived from ***accomplishing specific tasks,*** such as solving a problem, generating an idea, influencing others regarding an issue or product, validating a decision already reached or buying a product through online social interactions (Dholakia, et al., 2004)

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Linking Social Capital Factors to Motivations

Self-related motivational antecedents

Self Disclosure Need

- The self disclosure need derives from **self realization values** that can be traced back to the work of the eudaemonists, existentialists, and other related work in studying the philosophy of personal identity (Waterman, 2004). It is a type of individual intrinsic motivation that the individual needs to form a personal identity.

Entertainment Need

- The entertainment need is derived from the **value of having fun and relaxation** through playing or otherwise interacting with others. Studies have shown that many participants do this for entertainment through exploring different fictional identities, as well as encountering and solving virtual challenges (McKenna & Bargh, 1999)

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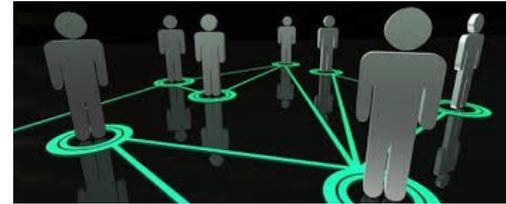
Linking Social Capital Factors to Motivations
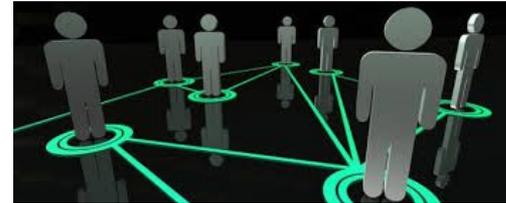
Socially-related motivational antecedents

The socially-related motivations are based on a set of social needs derived from the value of viewing oneself in relation to other group members (Dholakia, et. al., 2004)

The Need of maintaining Connectivity and Social Status

The socially-related motivations can derive from social needs such as the need of maintaining interpersonal connectivity, and the need of enhancing social status. These needs can be explained from the ***Social Integration*** perspective (Berkman & Glass, 2000), and the **Social Exchange Theory** (Emerson, 1976).

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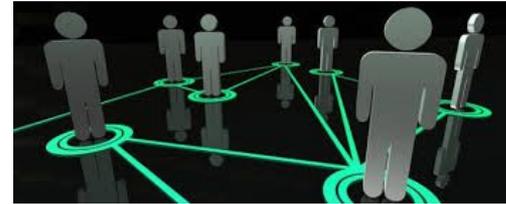
Socially-related motivational antecedents

Social Integration perspective includes the view that individuals need social support, social influenxe, and social engagement so that their beliefs can be reinforced for their well-being.

- Maintaining interpersonal connectivity can benefit individuals with social support, friendship and intimacy.

- Empirical studies have found that ***engaging in virtual communities can help members stay connected, and provide greater benefits for users experiencing low self-esteem and low life satisfaction*** (Ellison, Steinfiels & Lampe, 2007)

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Linking Social Capital Factors to Motivations
Socially-related motivational antecedents

The Need of maintaining Connectivity and Social Status

The *Social Exchange Theory* claims that:

- **The anticipation of social rewards and punishments forms the incentive for individuals to exchange favours or act in a collective way** (Gachter & Fehr, 1999)
- **The value of enahncing social status is derived from contributing to the community so as to gain acceptance and reciprocity of other members**, and as a result, enhance one's social status within the community (Baumeister, 1998)

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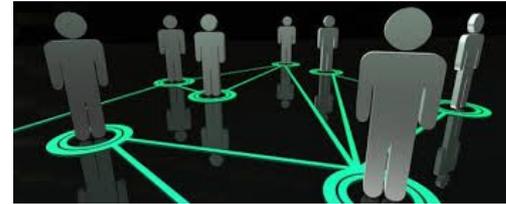
Linking Social Capital Factors to Motivations
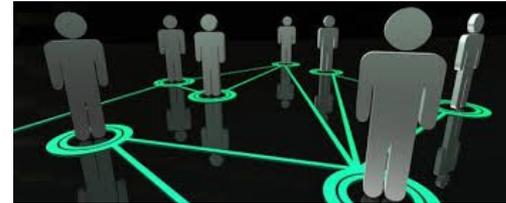### *Socially-related motivational antecedents*

The Need of Exerting Social Influences

The socially-related motivations can also derive from social influences, which Bagozzi and Dholakia (2002) summarize into:

1. **Compliance** (i.e., normative influence of others' expectations)
2. **Internalization** (i.e., congruence of one's goals with those of group members)
3. **Identification** (i.e., conception of one's self in terms of the grou's defining features)

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Linking Social Capital Factors to Motivations
Socially-related motivational antecedents

### *The Need of Exerting Social Influences*

The constructs frequently used to study social influences in virtual communities are **Social Identity** and **Social Norms.**

- **Social Identities**i captures the main aspects of an individual's identification with the group in the sense that the person comes to view himself or herself as a member of the community , as belonging to it (Dholakia, et al., 2004)
- The **Social Norms** can be in the form of the community norm or the group norm which is defined as "the understanding of, and a commitment by, the individual member to a set of goals, values, beliefs, and conventions shared with other group members" (Dholakia, et al., 2004)

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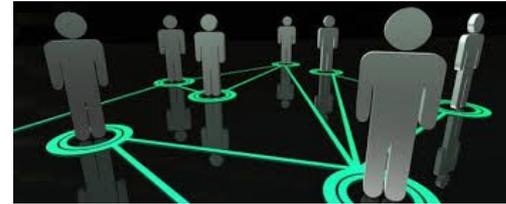
Linking Social Capital Factors to Motivations

Self and Socially-related motivational antecedents
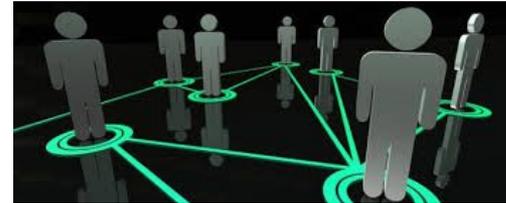
The Need of Fulfilling Social Cognitions

The socially-related motivations can derive from individuals' cognitions in inter-personal relationships.

- According to the **Social Cognitive Theory**, a person's behaviour is partially shaped and controlled by the influences of social network and the person's cognition, such as expectations and beliefs (Bandura, 1989)
- Two types of expectation and belief have been identified as the major cognitive forces guiding behaviour:
  - ***Outcome expectations***
  - ***Self-Efficacy***

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Linking Social Capital Factors to Motivations

Self and Socially-related motivational antecedents

The Need of Fulfilling Social Cognitions

Information systems (IS) researchers have demonstrated the importance of self-efficacy and outcome expectations for predicting and improving the performance of IT usage

- The computer ***Self Efficacy*** in the computer training environment (Agarwal, Sambamurthy, & Stair, 2000)
- And ***Outcome expectations in virtual community context*** (Chiu, et al., 2006).
- The ***Individuals' expectations*** and ***beliefs*** are closely related to the individuals' intrinsic needs and personal characteristics
- The assets embedded within the interpersonal linkages, such as ***trust, group norms*** and ***group identification*** (Chiu, et al., 2006) are both shaped by social influences.
- Multi-dimensional trust for environmental influences, as well as self-efficacy and outcome expectations for personal influences, ***show significant effect on knowledge sharing in professional virtual communities*** (Hsu, et al., 2007)

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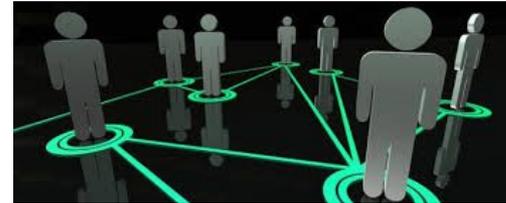
Linking Social Capital Factors to Motivations
Why Social Capital Factors Facilitate Motivations
Structural Dimensions

Social Capital Dimension	Construct	Knowledge sharing facilitation	Source
Network configuration	Centrality	High levels of network centrality enable individuals to contribute more helpful responses	Wasko et al. 2005
Network Ties	Social Interaction Ties	A cost.effective way of assessing a wider range of knowledge sources	Chiu et al., 2006
	Social Interactivity	Opportunity to interact and network with knowledgeable members	Phang et al., 2009

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Linking Social Capital Factors to Motivations

Why Social Capital Factors Facilitate Motivations

Relational Dimensions

Social Capital Dim.	Construct	Knowledge sharing facilitation	Source
Trust	Trust	Trust creates intrinsic motivation to share	Chiu et al, 2006
Norms	Norms of Reciprocity	Participants expect mutual reciprocity which can justify their effort in KS activities	Chiu et al., 2006
	Reciprocity	When there is a trong norm of reciprocity in the collective, individuals trust their contribution effort will be reciprocated, thereby rewarding and ensuring ongoing contribution	Wasko et al., 2005
Identification	Identification	Sense of belong and positive feeling toward community	Chiu et al., 2006
	Perceived Identity Verif.	Similar identity helps to build relationships with each other	Ma et al., 2007
Obligations and Expectations	Committment	Committment to a collective conveys a sense of responsibility to help others	Wasko et al., 2005

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Virtual Communty Participation and Motivation

Linking Social Capital Factors to Motivations

Why Social Capital Factors Facilitate Motivations

Cognitive Dimensions

Social Capital Dim.	Construct	Knowledge sharing facilitation	Source
Share codes	Knowledge tracking fulfillment	System supported ability to track knowledge activities	Phang et al., 2009
Shared language	Shared Language	Facilitating common understanding of collective ways of acting in virtual community	Chiu et al., 2006
Shared value, vision	Shared vision	Common goals, interests and visions that members of a virtual community share will help them to see the meaning of knowledge	Chiu et al., 2006
Individual Expertise	Self- related expertise	Higher levels of expertise enable individuals to provide more useful advice	Wasko et al., 2005
	Tenure in the field	Longer tenure in the shared practice are likely to enable individuals to better understand the practice and share relavant knowledge	Wasko et al., 2005

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