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Prosumption, Networks and Value During a Global Pandemic: Lockdown Leisure and COVID-19

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Abstract

Following advances in information technology and the rise of social media, prosumption – a model of simultaneous production and consumption of the commodity – has become a significant focus in many industries and for academic study. Prosumption represents a new message creation and delivery paradigm, where anyone can seamlessly shift from consumer to contributor, to creator. Central to this is the idea of creating 'use-value' and re-orientating 'exchange value'. Perhaps an overlooked facet, but one deeply engrained in its manifestation is that prosumption is inherently relational, involving micro-interaction between consumer and producer. The recent global COVID-19 pandemic, it too being relational in its transmission, has had a paralysing effect on global leisure activities with households and sports organisations experiencing some form of state-enforced residential lockdown. Using social network analysis, this commentary examines the network structure of a prosumed leisure activity during societal lockdown and its implications for the leisure industries.

Introduction

COVID-19 is a highly infectious severe acute respiratory syndrome, transmissible through human (and animal) interaction, formally known as SARS-CoV-2 (WHO, 2020a). Initially reported in Wuhan, China early-December 2019, in a matter of months, the virus spread to all corners of the globe demonstrating our structured networked society (WHO, 2020b). While reportedly less deadly than other recent epidemics and pandemics, such as SARS (severe acute respiratory syndrome), MERS (Middle East respiratory syndrome) and Ebola virus, COVID-19 seems to spread much easier with a basic reproduction number (R_0) of 2 – 2.5, making it more contagious than seasonal flu (Callaway, Cyranoski, Mallapaty, Stoye & Tollefson, 2020). At the time of writing, according to WHO (2020c) approximately 2.4 million cases of COVID-19 have been confirmed with 162,000 reported deaths globally, inferring a death-rate of ~6%. However, actual cases are expected to be higher amid testing and protocol issues and the WHO (2020d) estimate a mortality rate of 3.4%. Notwithstanding these infection and mortality rates, this virus will have lasting impacts on global society and economies, laying bare the fragility of neoliberalist markets. Indeed, at the time of writing the price of oil had dipped to an 18-year low, with forecasts of deep recessions following.

Often, depending upon national cultures, societies react in different ways to trauma. In Western Europe, Australia, North America, among other nations, a population's initial reaction to the pandemic was to stockpile food and supplies, especially toilet roll; in anticipation of governmental social distancing procedures (Jankowicz, 2020; Taylor, 2020). The global response from governments (with some exceptions) has been national (or regional) lockdowns, border closures, restricting people's movements, or even confining them solely to the household (Kaplan, Frias & McFall-Johnsen, 2020). Consequently, sport and leisure opportunities have become vastly limited and confined to more individual constrained forms

(i.e., exercises such as walking, running and cycling limited to once per day and not beyond the household). Therefore, any form of leisure that brings people in close contact, from theme parks to museums, have closed in physical form to the public. Even professional and recreational sports have been postponed, or even completely cancelled in some cases (i.e. The Football Association in England has cancelled all grassroots adult and youth recreational football for the 2019/2020 season; Parnell, Widdop, Bond & Wilson, 2020).

The increase in leisure time and a reduction in leisure opportunities has forced people into alternative means of consumption (and production), generating make-shift leisure opportunities. For example, the stockpiling of toilet roll provided an opportunity for what became the #ToiletRollChallenge. This developed into a leisure form accessed on the social media platform Twitter, whereby people filmed themselves trying to do 'keepy-ups' with a toilet roll (i.e. the skills of keeping up the toilet roll off the ground using parts of your body). Indeed, this challenge became one of many social media-driven leisure opportunities developed during the lockdown. Taken in isolation, this challenge appears somewhat frivolous, amongst the backdrop of mortality rates and a depressed economy; yet it nevertheless offers insight into consumption and production patterns of leisure in a constrained but networked society. To that end, this commentary discusses how this lockdown leisure is reliant on Toffler's (1980) notions of prosumption, which also fragments the notion of value, but is only accessible through prosumer networks. By analysing the recent "ToiletRoleChallenge", we add to the theoretical understanding of prosumption, by uncovering how the concept is fundamentally relational, involving micro-interactions, generating a structure that facilitates this lockdown leisure; however, this structure also generates opportunities for corporate leisure and sports organisations to exploit.

Prosumption and Value

Since Toffler (1980:265) anticipated “the rise of the prosumer”, much has been written on the field of prosumption – mainly since the global recession in 2007 (Ritzer & Jurgenson, 2010). Overlooked for decades, prosumption depicts the interlinked processes of production and consumption, identifying mutual interdependence which cannot be separated (Andrews & Ritzer, 2018). Ritzer (2015a, 2015b) offers development phases of prosumption, leading to the *new world*, depicting the shift from the ‘material’ to the ‘digital’ world, which is now normal reality. This entanglement of digital technologies within people’s daily lives has brought Toffler’s (1980) prosumption work to the fore of cultural, societal and consumption debate.

Examples of prosumption can be found in all industries, yet sport and to a lesser degree, leisure has gone relatively unexplored in comparison to other industries (Andrews & Ritzer, 2018). The lack of attention may pertain to most leisure (and sport) opportunities requiring a mix of the material (theatres, parks, stadia) and digital world (marketing, ticket purchases, content engagement) and are not necessarily seen as ‘products’. Nevertheless, the COVID-19 lockdown made the material world and associated leisure opportunities inaccessible. Thus, people are only able to access most opportunities within the digital world, mainly through the rise of Web 2.0 (Ritzer & Jurgenson, 2010). The different Web 2.0 platforms are nuanced and fit different categories (see Zajc, 2015; Orenga-Roglá & Chalmeta, 2016). Yet, they all share the ‘user-generated’ model as users become ‘active contributors’ (Lai & To, 2015). Ultimately, these applications are modern-day digital prosumption systems, meaning the user-generated content becomes the commodity which is consumed and demanded.

As these prosumption systems blur the lines between consumer and producer, conceptualising value becomes equally blurred. The notion of ‘prosumers’ represents a fundamental change in

economic organisation and how we understand market actors (Humphreys and Grayson, 2008). Traditionally, the relationship between consumers and producers is an exchange relationship where each party trades one kind of value for another (Bagozzi 1975). In sport, for example, the 'product' (event) is 'consumed' by the end-user (fan). Importantly, however, both the organisation and the end-user have worked to create value in the live event. Thus, the creation of value does not adequately distinguish the roles of 'producer' and 'consumer'. What does differentiate the two roles is whether the value-creation activity produces what Marx (1867 [2001]) referred to as 'exchange-value' or 'use-value'.

The exchange-value of an object is its relative worth “when placed in a value or exchange relation with another commodity of a different kind” (Marx 1867 [2001], p. 88). However, commodities, and experiences, have value beyond their market valuation (Cockayne, 2019), as they have an intrinsic utility to whoever owns or purchases them, or ‘use-value’. Traditionally, exchange-value is realised only at the point of sale; however, use-value is only realised through consumption; implying an order – exchange-value occurs before use-value (Cockayne, 2019). However, within Web 2.0 prosumption applications, often producers first need to consume, inverting the traditional ordering of value conception. That is, user-generated content is often produced through a process of consumption (sharing a video, news article, other items consumed elsewhere), which is consumed by sharing, liking or commenting, producing content for others to consume, and so on. In this instance, use-value comes before exchange-value, in that, users first consume content, placing a value on the usefulness. If the use-value is sufficient to attract further social interest, users will reproduce the content for others to consume, in essence, creating an exchange-value. For the purposes here, we term this prosumption value. We argue, however, that this value only exists relationally, between prosumers. It is the networked nature of prosumption that enables value to be generated and exchanged, only

existing in an ongoing social network.

Prosumer Networks

We argue that prosumption is inherently relationally bound in networks of people interacting. Accordingly, we reject neoclassical principles of leisure being consumed independently by atomistic actors governed by rules of methodological individualism. Instead, we follow Granovetter's (2017) lead in arguing that purposive action is embedded in ongoing systems of social relations. These social relations, according to Crossley (2015) form a networked social world of numerous interactions and ties between actors who are themselves formed in those interactions. To that end, we believe leisure and co-production of it, to be fundamentally relational, being contained and facilitated through overlapping networks, which are impacted by micro-interactions, but the structure impacts back upon these interactions, that is to say, leisure networks are always in flux.

Therefore the notions of digital prosumption systems, and prosumption value, rely on connections within the digital world; hence we term these systems prosumer networks. Integral to these prosumer networks is economic sociology which emphasises the (social) structure of economic action (Burt, 1992; Granovetter, 1985, 2005). Therefore, to understand these prosumer networks further, we must adopt a network perspective which is engrained within economic sociology. Granovetter's (1985) theory of embeddedness stipulates that economic behaviour is embedded structurally and relationally in relationships throughout society, especially sports and leisure (Bond, Widdop & Chadwick, 2018; Bond, Widdop & Parnell, 2019; Parnell, Widdop, Groom & Bond, 2018). Hence, economic behaviour, such as producing and consuming user-generated content concerning #ToiletRollChallenge, is structured and influenced by social (media) world.

Moreover, Granovetter (2017) identified four underpinning theoretical frameworks forming embeddedness. Firstly, density and cohesion, relate to norms and conventions, meaning shared ideas and behaviour are impacted by the size, density and cohesion of the network structure. Therefore, the larger the prosumer networks become, the more use- and exchange-value is created for the content. Thus the content's ideas or messages becomes more conventional. Secondly, the strength of weak ties suggests new information and innovation comes from weak ties, whereas strong ties reinforce trust and bonding. Therefore, within prosumer networks, there is potentially more value (especially utility) in content from weak ties within the structure.

Thirdly, Burt's (1992, 2004) structural holes theory, notes the importance of individual actor position in the network structure. For Burt, individuals (or organisations) who connect multiple, otherwise unconnected networks, enjoy some strategic advantage. Therefore, within prosumer networks, these actors can extract prosumption value by brokering content throughout networks (Burt, 2004). Finally, temporal embeddedness, positing transactions or interactions have a past, meaning all micro-interactions create a global structure, which, if persistent for long enough, form an institution. While, prosumer networks such as #ToiletRollChallenge may be temporal in nature, the history of the connections made will then influence the structure of other initiatives. That is, a network has history and can be quickly mobilised again; with the previous structure impacting future prosumption leisure.

A Prosumer Network Example

Using the idea of a prosumer network, we can identify how people used #ToiletRollChallenge as a sport and leisure opportunity during the COVID-19 lockdown. Using, NodeXL software

(Smith, Ceni, Milic-Frayling, Shneiderman, Mendes Rodrigues, Leskovec, & Dunne, 2010) to collect Twitter data following the #ToiletRollChallenge hashtag, we applied Social Network Analysis (SNA; see, Borgatti, Everett & Johnson, 2018; Wasserman & Faust, 2009); for a brief notation on the methods please see the Supplemental Online Material. Figure 1 provides an example of the #ToiletRollChallenge prosumer network, during the COVID-19 pandemic.

[Figure 1 Here]

[Table 1 Here]

Figure 1 illustrates visualisation of the network formed around the leisure pursuit of #ToiletRollChallenge, while Table 1.0 shows the graph metrics. The visualised network demonstrated a patterned structure of value creation through prosumed leisure. Indeed, our sample includes 4,138 twitter identities (individuals or organisations) connected by 6,123 ties (tweeting, retweeting or mentions). However, this is quite a sparse network (density = 0.0003) identifying almost all potential ties are not realised, suggesting there are more value creation opportunities. Yet, the average shortest path length (average geodesic distance) connecting two individuals is 7.67, suggesting that information, thus value, can flow through the network relatively quickly. Finally, the clustering coefficient, measuring the clustering tendency of nodes, is relatively low (0.07 on a scale of 0 = low – 1 = high), indicating a network comprised predominately of weak ties. This would align to the low density and may suggest user-generated content from weak ties has more presumption value within prosumer networks because it is more novel than content from strong ties.

Interestingly, this prosumer network also includes different sub-communities, illustrated by the

different grids of Figure 1. These communities demonstrate smaller value creation groups. Importantly, these sub-communities have what we may call key influencers, or value-creators. For example, the largest community (see left grid in Figure 1) includes; YouTube (another prosumption site), BBCSport, Arsenal FC, Manchester United, The Guardian, Gary Neville, Gary Lineker, Gary Barlow, Wayne Rooney, and even Piers Morgan (a prominent British Journalist). Additionally, there are multiple smaller communities, such as; English Football – with the likes of Premier League and Aston Villa FC; Italian football driven by Juventus FC; and smaller communities driven by individuals; such as Thierry Henry and Stan Collymore. This entanglement of organisations and personalities demonstrates how they can drive value creation, but by doing so also extract their own value, also known as prosumption capital (Andrews & Ritzer, 2018; Ritzer, 2015a, 2015b; Ritzer & Jurgenson, 2010).

Conclusion

The pursuit of leisure is very rarely an isolated act, even when it appears to be so. An act of an individual improvising football skill with an inanimate object, during a period of state-imposed isolation, for all intents and purposes is very much that. However, we have shown that this leisure pursuit is relational and prosumed leisure. Indeed, behind these leisure acts are complex network structures, that places this act into a wider social structure. Furthermore, when a social structure has certain structural configurations, such as being dominated by weak ties, isolated leisure acts become part of a social movement, it becomes relational. This also distorts our conceptualisations of value in the traditional sense. Especially as individuals (celebrities) and large multi-national corporations can exploit this network to promote their brand and organisations, extracting their own prosumption value.

This commentary raises the question on the neo-liberalism of leisure during the confinement

of freedom. If we are all now prosumers, are we as consumers being exploited two-fold by capitalists under the guise of leisure? First, by generating content for social media platforms and secondly through enhancing the value of network influencers and international corporations. Arguably, therefore, this becomes leisure for other people's sake.

References

- Andrews, D. L., & Ritzer, G. (2018). Sport and prosumption. *Journal of Consumer Culture*, 18(2), 356-373.
- Bagozzi, R. P. (1975). Marketing as exchange. *Journal of Marketing*, 39(4), 32-39.
- Bond, A. J., Widdop, P., & Chadwick, S. (2018). Football's emerging market trade network: ego network approach to world systems theory. *Managing Sport and Leisure*, 23(1-2), 70-91. <https://doi.org/10.1080/23750472.2018.1481765>
- Bond, A. J., Widdop, P., & Parnell, D. (2019). Topological network properties of the European football loan system. *European Sport Management Quarterly*, 1-24. <https://doi.org/10.1080/16184742.2019.1673460>
- Borgatti, S. P., Everett, M. G., & Johnson, J. C. (2018). *Analyzing social networks* (2nd Editio). London: SAGE Publications Ltd
- Burt, R. S. (1992). *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.
- Burt, R. S. (2004). Structural Holes and Good Ideas. *American Journal of Sociology*, 110(2), 349–399. <https://doi.org/10.1086/421787>
- Callaway, E., Cyranoski, D., Mallapaty, S., Stoye, E. & Tollefson, J. (2020) The coronavirus pandemic in five powerful charts. *Nature* 579, 482-483 doi: 10.1038/d41586-020-00758-2
- Cockayne, D. (2019). Whose side are we on? Balancing economic interests with social

- concerns through a service-thinking approach. *European Sport Management Quarterly*, 1-19.
- Crossley, N. (2015). Relational sociology and culture: A preliminary framework. *International Review of Sociology*, 25(1), 65-85.
- Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology*, 91(3), 481–510. <https://doi.org/10.1086/228311>
- Granovetter, M. (2005). The Impact of Social Structure on Economic Outcomes. *Journal of Economic Perspectives*, 19(1), 33–50. <https://doi.org/10.1257/0895330053147958>
- Granovetter, M. (2017). *Society and economy : framework and principles*. Cambridge, MA: The Belknap Press of Harvard University Press.
- Humphreys, A., & Grayson, K. (2008). The intersecting roles of consumer and producer: A critical perspective on co-production, co-creation and prosumption. *Sociology compass*, 2(3), 963-980.
- Jankowicz, M. (2020) The coronavirus outbreak has prompted people around the world to panic buy toilet paper. Here's why. *Business Insider* 10th March 2020 [Online]. Retrieved from: <https://www.businessinsider.com/coronavirus-panic-buying-toilet-paper-stockpiling-photos-2020-3?r=US&IR=T>
- Kaplan, J., Frias, L. & McFall-Johnsen, M. (2020) A third of the global population is on coronavirus lockdown — here's our constantly updated list of countries and restrictions, *Business Insider* [Online]. Retrieved from: <https://www.businessinsider.com/countries-on-lockdown-coronavirus-italy-2020-3?r=US&IR=T>
- Lai, L. S., & To, W. M. (2015). Content analysis of social media: A grounded theory approach. *Journal of Electronic Commerce Research*, 16(2), 138 – 152.
- Marx, K., 1867 [2001] *Capital: A critique of Political Economy*. Harmondsworth, Middlesex,

England. Penguin Books

- Orenga-Roglá, S., & Chalmeta, R. (2016). Social customer relationship management: taking advantage of Web 2.0 and Big Data technologies. *SpringerPlus*, 5(1462) <https://doi.org/10.1186/s40064-016-3128-y>
- Parnell, D., Widdop, P., Bond, A., & Wilson, R. (2020). COVID-19, networks and sport. *Managing Sport and Leisure*, 1-7. <https://doi.org/10.1080/23750472.2020.1750100>
- Parnell, D., Widdop, P., Groom, R., & Bond, A. (2018). The emergence of the sporting director role in football and the potential of social network theory in future research. *Managing Sport and Leisure*, 23(4-6), 242-254. <https://doi.org/10.1080/23750472.2018.1577587>
- Ritzer G (2015a) The “new” world of prosumption: Evolution, “return of the same,” or revolution? *Sociological Forum* 30: 1–17.
- Ritzer G (2015b) Prosumer capitalism. *The Sociological Quarterly* 56: 413–445.
- Ritzer, G., & Jurgenson, N. (2010). Production, consumption, prosumption: The nature of capitalism in the age of the digital ‘prosumer’. *Journal of Consumer Culture*, 10(1), 13-36.
- Smith, M., Ceni A., Milic-Frayling, N., Shneiderman, B., Mendes Rodrigues, E., Leskovec, J., & Dunne, C., (2010). NodeXL: a free and open network overview, discovery and exploration add-in for Excel 2007/2010/2013/2016, from the Social Media Research Foundation: <https://www.smrfoundation.org>
- Taylor, C. (2020) Here’s why people are panic buying and stockpiling toilet paper to cope with coronavirus fears, *CNBC* [Online]. Retrieved from: <https://www.cnn.com/2020/03/11/heres-why-people-are-panic-buying-and-stockpiling-toilet-paper.html>
- Toffler, A. (1980). *The third wave* (Vol. 484). New York: Bantam books.

Wasserman, S., & Faust, K. (2009). *Social network analysis : methods and applications* (9th ed.). Cambridge, UK: Cambridge University Press.

World Health Organisation (2020c) Coronavirus disease 2019 (COVID-19) Situation Report – 92, *World Health Organisation*. Retrieved from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200421-sitrep-92-covid-19.pdf?sfvrsn=38e6b06d_4

World Health Organisation (2020d) WHO Director-General's opening remarks at the media briefing on COVID-19 - 3 March 2020. Retrieved from: <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---3-march-2020>

World Health Organisation. (2020a). WHO Coronavirus disease (COVID-19) outbreak. Retrieved from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

World Health Organisation. (2020b). WHO announces COVID-19 outbreak a pandemic. Retrieved from: <http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/who-announces-covid-19-outbreak-a-pandemic>

Zajc, M. (2015). Social media, presumption, and dispositives: New mechanisms of the construction of subjectivity. *Journal of Consumer Culture*, 15(1), 28-47.

Figure 1. Prosumer Network of #ToiletRollChallenge

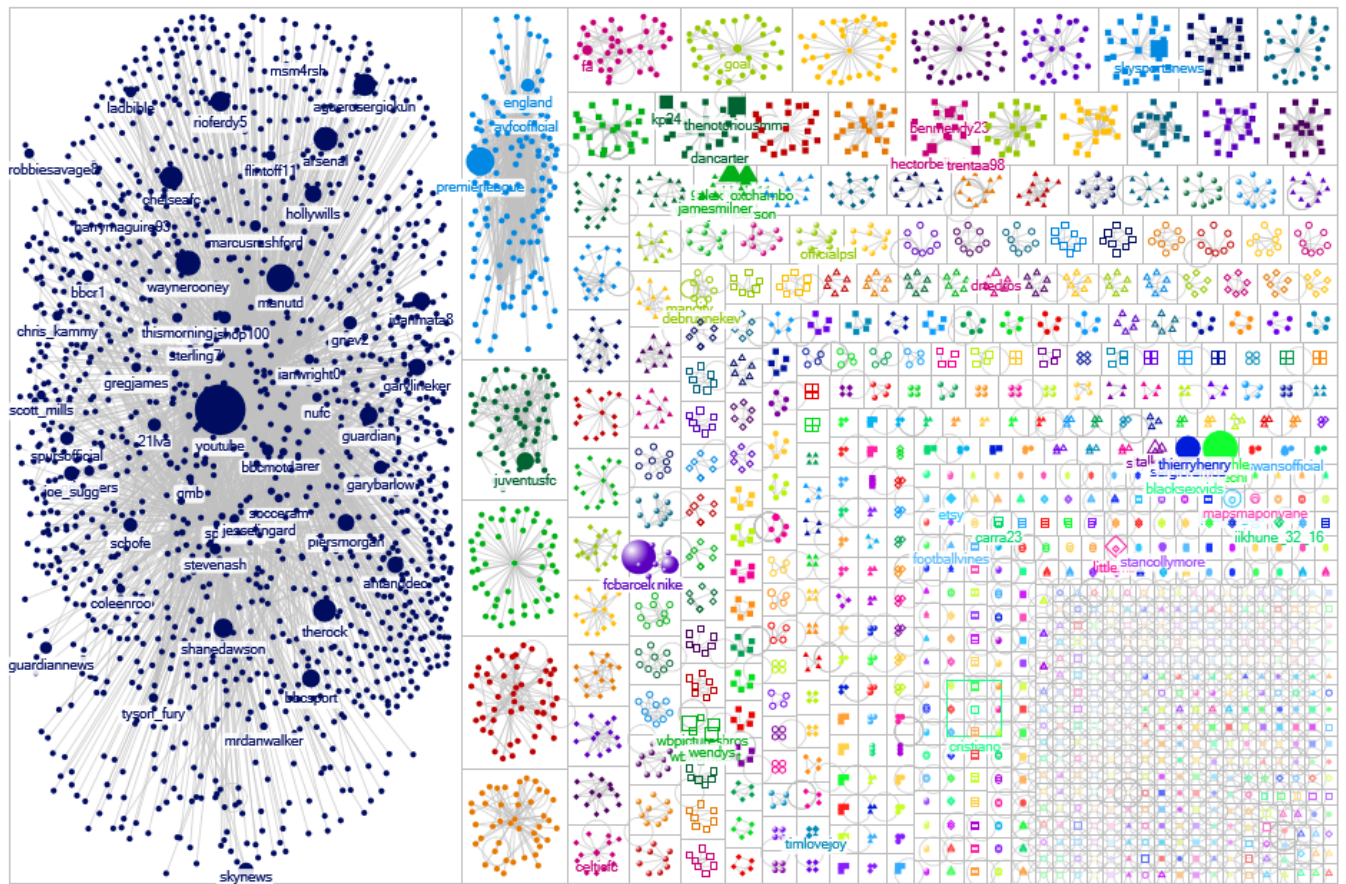


Table 1. Graph Metrics for #ToiletRollChallenge Prosumer Network

Metric	#ToiletRollChallenge
Actors	4138
Edges (ties)	6123
Density	0.0003
Average geodesic distance	7.67
Average degree	1.38
Clustering coefficient	0.07
Modularity	0.77

Supplemental online material

A network (or graph) describes a set of elements, termed nodes (or vertices), that are connected through interactions and relationships, termed edges. Following Wasserman & Faust (2009) a graph is noted as $G(V, E)$ where V is a set of vertices and E a set of edges connecting vertices, $L \in V \times V$ (Borgatti, Everett & Johnson, 2018). An edge connecting vertices x and y in graph G would be written $(a, b) \in E(G)$. In the context of using online social network site Twitter, vertices are users (@user1, @user2, @user3, @user... n) and edges are the relational tie connecting a user, which can be; 'Followed' - @user1 follows @User2, 'RepliesTo' - @User1 creates a message starting with @User2 and finally 'Mentions' where @User1 creates a message containing but not starting with @User2. A 'Tweet' is a message created by @User1 that does not mention another user, but this can be 'ReTweeted' or 'Liked' by @User2 or @User(n). Therefore, edges follow a direction, so $L_{ij} \in \{0, 1\}$, with $L_{ij} = 1$ showing a connection (like, retweet or reply) and $L_{ij} = 0$ where a connection does not exist. This can be represented in an asymmetric adjacency matrix, $\mathbf{A} = n \times n$ (n representing the number of nodes in the network). Hence, L_{ij} in the adjacency matrix \mathbf{A} is not equal to L_{ji} .