

# Effect of social networks in marketing assignment

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It has often brought a tectonic shift in the strategy and value proposition that companies offer. New industries like search engine, file sharing etc. Have sprung from nowhere and now some of the most valuable companies in the world are in these sectors. It is worth noting that internet has more often than not led to transfer of greater economic value to consumers making it difficult for companies to maintain profitability and differentiation. (Porter, 2001) In such a scenario strategy and marketing become all the more important. In this regard, internet has been a mixed blessing.

It has led to increased communication of products and at the same time allowed companies to build a better understanding of customers and consumer behavior, which allow them to come up with better positioning and differentiation strategy. Even in marketing, internet has impacted all the four As of marketing. It has changed how product is designed and how much customization is possible (example of Dell computers case in point). It has brought down price because of better access to information. And, it has most visibly changed the distribution channels.

The focus of my review is the last P of marketing, namely Promotion. Internet has allowed researchers to collect data about consumer behavior and preferences with enormous ease and accuracy. It has enabled social scientists to study consumers in various contexts and analyses new interdependencies and interrelationships. Some of the most influential work has been in the field of social network and its implications for marketing. Marketing In A Connected World Social network are ubiquitous. We were born in one and we shall inevitably be a part of one for the rest of our lives.

They have been known to influence everything from the amount of money we make to the level of happiness we experience in life to how we marry and divorce, whether or not we commit suicide (Christians & Fowler, 2009) and also how much we weigh (Christians & Fowler, The Spread of Obesity in a Large Social Network over 32 Years, 2007) The following excerpt from Nicholas Christians and James Fowler book ' Connected' gives n insight into the kind of influence social networks can exercise on how we live and behave in the society. Page 3 near Lake Victoria in the Bazooka District, there was an epidemic of laughter.

And this was not just a few schoolgirls sharing a Joke. An irresistible desire to laugh broke out and spread from person to person until more than one thousand people were affected.... The epidemic began on January 30, 1962, when three girls aged twelve to eighteen started laughing uncontrollably. It spread rapidly, and soon most people at the school had a serious case of the giggles. By March 18, ninety-five of the 159 pupils were affected, and the school was forced to close. The pupils went home to their villages and towns.

Ten days later, the uncontrollable laughter broke out in the village of Anamosa, fifty-five miles away, where some of the students had gone. A total of 217 people were affected. Other girls returned to their village near the Arrangement Girls' Middle School, and the epidemic spread to this school in mid- June. It too was forced to close when forty-eight of 154 students were stricken with uncontrollable laughter. Another outbreak occurred in the village of Kangarooed on June 18, again when a girl went home. The outbreak started with her immediate family and spread to two nearby boys' schools, and those schools were also forced to close.

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After a few months, the epidemic petered out. . . As the villagers and the scientists investigating this outbreak realized, the epidemic was no laughing matter. It did not involve the spread of real happiness and Joy?? though this can happen too, albeit not in quite the same way. Rather, the outbreak was a case of epidemic hysteria, a condition that takes advantage of a deep-rooted tendency of human beings to exhibit emotional contagion. Emotions of all sorts, Joyful or otherwise, can spread between pairs of people and among larger groups. Consequently, emotions have a collective and not just an individual origin.

How you feel depends on how those to whom you are closely and distantly connected feel. ” (Christians & Fowler, Connected, 2009) Given their ubiquity and the impact they can have on us, it is natural that they also influence how we buy, when we buy and what we buy. All this has huge implications on what products marketers develop and how they reach out to consumers. It is also important to note that in the pocketbooks world, we have throng presence in both online and offline communities and both of them affect and shape our overall behavior including our buying decisions (Watts & Reilly, 2011).

Is Using Marketing Using Networks A New Concept? Marketing using networks is defined as the use of knowledge of social networks for promoting a product. Although it might seem that marketing using networks has been outcome of hyper competitive markets that have forced managers to find new and ingenious ways to make people ‘ buy more’, it is not so. In fact, marketing using networks concept is older than advertising itself. Traders

and businessmen have relied on word of mouth for eons to help them improve their sales and it is nothing other than marketing using networks.

Page 4 Marketing using networks is also known by various other names (as enumerated below), but is essentially the same concept: 1 . 2. 3. 4. 5. Viral marketing Word of mouth marketing Referral Programmer Community marketing Influence(r) marketing scientists into the nature of network, principles governing their formation and how all this affects spread of information and formation of opinions amongst the consumers. I have divided the literature review and analysis into three broad categories. The categories allow us to understand the research in the said perspective and help draw link between various concepts.

The three categories are: 1. People in the context of networks 2. Ties, Influence and Contagion 3. Internet and networks In each chapter, I have introduce the research that has been undertaken, its insights and then its implications on how marketing is undertaken and shall be undertaken in the near future. Page 5 CONCEPTUAL FRAMEWORK Before introducing the chapters it is necessary to explain certain concepts that shall be repeatedly mentioned in the chapters. Any social network has two basic components. The people (known as nodes) and the connections (called edges) between them.

Thus, a network can be defined as a set of nodes connected by edges. The attributes and characteristics of the nodes and edges will define how nature and characteristics of the network and determine the nature of interactions that happen. Node Node refers to the actors in a network. (as mentioned in

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fig. 1) In different networks nodes represent different actors or participants. E. G. In case of trade between nations nodes will represent countries. Similarly, nodes may depict ingredients in recipe. Nodes may be weighted or non-weighted. The weight may be depicted through the size of the node or by its color.

Often in network, nodes are weighted by their degree, Between and even according to the community to which they belong. Edges Edges are the lines depicting connections or interaction between various nodes (as mentioned in fig. 1) Edges may be weighted or non-weighted. So, if width of the edge depicts the level of interaction between the two nodes then it is called a weighted edge and if this is not the case then it is called a non-weighted edge. ATTRIBUTES OF NODES The importance of a node can be ascertained on the basis of its centrality.

Centrality refers to how deeply embedded a node is in the network. Here are the three measures of centrality: Degree It refers to the number of edges a node has. For e. G. In fig. 1 node 1 has degree 1, node 2 has degree 2, node 3 has degree 3, node 4 has degree 2 and node 5 has degree 1 . Page 6 Between It measures the number of shortest paths that pass through a node. Here shortest path refers to the path from one node to other in which smallest passes through node 3. Thus , node 3 has high Between. Similarly, because no shortest path of any two nodes passes through 1, it has low Between.

Closeness It measures the number of steps it takes for a node to reach any other node in the network. So even if a node does not have high Between or

Degree, it may have high closeness as it may be connected to a node that has high Between or high degree. This can be explained in the sense that even if you do not have large number of friends, you can get information about everyone else if even one of your friends is connected to a large number of people. Thus, through him/her you can obtain information about everyone else in the network and are thus connected to the rest of the network. E. G. In fig. Ode 1 is connected to rest of the network through node. We can now look at various insights that contemporary research provides into social network. Page 7 PEOPLE IN THE CONTEXT OF NETWORKS Just as our economic, cultural and social environment influences the trajectory of our live significantly, so does our position in the social network. In this chapter, we analyze what the latest research on social network and its impact on people says. We also analyze how various attributes regarding people define their position in the network and how information about these attributes can be used for promotion strategies.

We shape our network Homophony is the tendency to associate with people that are like us. We seek out the people that share our interests, histories, and dreams. We choose the structure of the network in three important ways: 1. We decide how many people we are connected to 2. We influence how densely interconnected our friends and family are 3. We control how central we are to the social network (Christians & Fowler, Connected, 2009) It has been long known that word of mouth has a crucial role to play in the success of a product and enterprise.

However, in case of homophony there is a certain debate regarding causation and relation. That is, whether people tend to become like each <https://assignbuster.com/effect-of-social-networks-in-marketing-assignment/>

other or people who are similar tend to congregate and make a strongly knit group. The research on the topic is ongoing. However, research in clinical field has shown that there is influence exercised by people on their contacts. (Christians & Fowler, The Spread of Obesity in a Large Social Network over 32 Years, 2007) Thus, there is significant chance that people have high influence on the overall lifestyle of their network.

This insight gives marketer all the more reason to rely on word of mouth marketing and ensure positive impressions on the consumers. Different people play different roles We shape our network in more than one ways. Our nature and tendencies also determine the kind of role we come to play in the network. Here are three types of influence wielders and a synopsis about them: 1 . Connectors are the people in a community who know large numbers of people and who are in the habit of making introductions. A connector is essentially the social equivalent of a computer network hub.

They usually know people across an array of social, cultural, professional, and economic circles, and make a habit of introducing people who work or live in different circles. They are world together". They are " a handful of people with a truly extraordinary knack for] making friends and acquaintances". Caldwell attributes the social success of Connectors to the fact that " their ability to span many different worlds is a function of something intrinsic to their personality, some combination of curiosity, goldfinches, sociability, and energy". Page 8 2.

Mavens are " information specialists", or " people we rely upon to connect us with new information. "[4]They accumulate knowledge, especially about the



marketplace, a ND know how to share it with others. According to Caldwell, Mavens start “ word-of- mouth epidemics” due to their knowledge, social skills, and ability to communicate. As Malcolm Caldwell states, “ Mavens are really information brokers, sharing and trading what they know”. 3.

Salesmen are “ persuaders”, charismatic people with powerful negotiation skills. They tend to have an indefinable trait that goes beyond what they say, which makes others want to agree with them. Caldwell, 2000) Identification of these actors in word of mouth marketing helps identify the flow of information and how a marketer can engineer his message and choose his initial argue audience to ensure that he is able to spread virally. This phenomenon has been reported in how videos become viral on Youth(Local, 2011). Our network shapes us Having an extra friend may create all kinds of benefits for your health, even if the other person doesn't actually do anything for you. Being more central makes you more susceptible to whatever is flowing within the network. Christians & Fowler, Connected, 2009) Our friends affect us. What actually flows across the connections is also crucial. Social networks transport all kinds of things from one person to another. One fundamental determinant of flow is the tendency of human beings to influence and copy one another. Each tie to different people offers opportunities to influence and to be influenced. (Christians & Fowler, Connected, 2009) Our friend's friend's friends affect us. Hypocycloid (connection between two nodes) spread is the tendency of effects to spread from person to person to person, beyond an individual's direct social ties.

The usual way we think about contagion is that if one person has something and comes into contact with another person, that contact is enough for the

second person to get it. Like getting infected with a germ. But some things - like norms and behaviors - might not spread this way. They might require a more complex process that involves reinforcement by multiple social contacts. Ex: If we wanted to get people to quit smoking, we would not arrange them in a line and get the first one to quit and tell him to pass it on.

Rather, we would surround a smoker with multiple nonsmokers. (Christians & Fowler, Connected, 2009) In such situations there is a significant role played by the strong ties, which are explained in chapter 3. This also plays a significant role in adoption of luxury and status symbol goods. These goods are usually of high cost and thus, it requires constant reinforcement to push us to buy these goods. Page 9 standing in the world than their absolute standing. People are envious. Many consumer demands arise not from innate needs but from social pressure.

People assess how well they are doing not so much by how much money they make or how much stuff they consume, but rather by how much they make and consume compared to other people they know. You don't need to be the most beautiful or wealthiest person to get the most desirable partner; you just need to be more attractive than all the other women in your network. Many people may be more attractive than we are, but our only real competitors are the people in our intended social network. Gender and Influence Apart from homophony, even gender has been found to impact the capacity of a person to influence others in the network.

Research in gender and its impact on influence by Asian Oral (the data was sourced from Backbone. Com) shows that: 1 . Individuals that report their

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gender as male are significantly less influential than individuals that do not report their gender. 2. An individual's reported relationship status has little to no effect on how influential they are, with the exception of individuals who report their relationship status as it's complicated, who seem to exert negative influence on the adoption hazard of peers in their local network. 3. Individuals that drive change are not the influencer but the susceptible 4. Individuals that report their gender as male are significantly less susceptible to influence than individuals that do not report their gender. 5. Susceptibility to influence increases non-linearly with the number of notifications received. 6. An individual's susceptibility to influence increases with the commitment level of the reported relationship status until they are married (relative to individuals that do not report their relationship status), with susceptibility increasing from single to in a relationship to engaged. . Individuals that report their relationship status as married do not seem to be significantly susceptible to influence. 8. Finally, individual's that report their relationship status as it's complicated are the most susceptible to influence from their peers. (Oral & Walker, 2012) All these insights have implication on how marketers decide to market their product on Backbone and other social media sites. Also, it helps marketers optimize the virality of their message to ensure maximum impact and reach. Page 10 INTERNET AND NETWORKS It is often said that whole is greater than sum of its parts.

It seems that this applies to networks too. Networks seem to have a life of their own. In Connected, authors say that social networks can have properties and functions that are neither controlled nor perceived by the people within them. These properties can be understood only by studying <https://assignbuster.com/effect-of-social-networks-in-marketing-assignment/>

the whole group and its structure, not by studying isolated individuals (Christians & Fowler, Connected, 2009). In this chapter, we analyse what these repertoires might be and how marketers can utilize their understanding to cater to its customer better.

We later built on this knowledge to see how viral marketing is affected by the structure of the network. We also analyse how internet has affected understanding networks. Random Networks. (Stewart, Ewing, & Matter, , 2004) introduced a random viral marketing model (RFM) based on the random network model developed by (Ord & Rennin, 1959) and described by (Albert & Barabás, , 2002). A random network can be generated by starting with a set of isolated nodes and allowing each of the  $N$  nodes to have a probability  $0$  of being connected by an edge to each other node.

As noted by Albert and Barabás (2002), in a random network the degree of its nodes follows a binomial distribution with parameters  $N - 1$  and  $0$ . As each node has the potential to connect up to  $N - 1$  other nodes, on average we expect each node to be connected to  $0(N - 1)$  other nodes, resulting in an expected total of  $1/CNN$  links. In the context of viral marketing, a typical network has large  $N$  and small  $0$  resulting in the average degree remaining moderate. The degree of a node therefore has an approximate Poisson distribution with mean network connected news  $A$ .

Because the standard deviation is it is very unlikely for a node to have degree of size comparable with  $N$ . In other words, it is unlikely that any node is directly linked to a significant proportion of the nodes in the network.

Scale-Free Networks Research into scale free networks has proliferated since

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their introduction by (Barabbas, 1999) and Albert and Barabbas (2002).

These networks provide useful representations of many different collateralizing systems, ranging from the World Wide Web to citation patterns in scientific publications to the electrical power grid of western United States.

The defining characteristic of a scale free network is in the shape of the probability distribution for the degree of each node, which determines the number of communication links or edges emanating from each member. The degree is assumed to follow a Power-law distribution, defined by  $P(k) \propto k^{-\gamma}$ . With  $\gamma > 0$ , where  $P(k)$  denotes the probability that a node is connected to  $k$  other nodes. This is a “fat-tailed” distribution where, with increasing  $k$ , the probabilities decline at a much slower rate than those of the Poisson distribution which essentially underlies the RFM model.

The Power-law distribution allows for a small number of nodes to be directly linked to a significant proportion of the nodes in the network while most nodes have few connections, thus keeping the mean number of connections comparatively low. These high degree nodes, often called hubs, ensure that the average distance  $L$  between any two nodes in the network is small (independent of the size of the network). The scalier network structure emerges naturally as a consequence of two phenomena: dynamic growth and preferential attachment (Barabbas 1999, Albert and Barabbas 2002), both important features of social networks.

Where a network is created by adding new members over time and these are connected to other members with a probability that is proportional to their

connectivity, the resulting distribution for the degree or number of connections per node will exhibit a Power-law distribution. These structures are called scale-free networks because despite their growth, they preserve statistical properties such as & Wallace, 2008) Small World Networks Small world graphs were first introduced by (Watts & Castrato, 1998) to model a class of social networks characterized by high clustering and short average distance between nodes.

Clustering is a local property of the network and is a measure of the connectivity of a neighborhood. The clustering coefficient  $C$  of a node is defined as the fraction of the node's neighbors that are linked to each other. High clustering and long average distances are typical features of I Attica networks (Derogative & Mended, 2003), where nodes can be thought of as points in a multidimensional space and nearby points are linked by edges. In contrast, small world networks have short average distances between nodes.

Small world networks can be constructed from lattice networks by applying a rewiring procedure: arcs neglecting neighbors (within the clusters) are removed from the graph with probability rewiring probability  $r$  and substituted by random links (making connections outside of the cluster). As  $r$  increases, the average distance  $L$  decreases very quickly (Watts & Castrato, 1998), producing a graph structure characterized by low node separation typical of random networks and strongly connected neighborhoods of regular networks. With increasing  $r$ , the graph starts to become more like a random network.

Small world networks are also potentially applicable to viral marketing because they capture the connections generated through physical recommit. Tightly linked neighborhoods reflect social structures based on friendship or professional relationships which are likely to form among people who interact within a confined physical environment. For example, Albert and Barabbas (2002) refer to a social system where people are well-connected with their neighbors and work colleagues but also have a much smaller number of connections with people who live far away, in another state or country.

Random links represent the distant acquaintances and are useful in representing connections between local networks. A higher level of rewiring makes the viral message spread age 12 faster and thus saturates the network sooner. It means that a very small number of people are linked to everyone else in a few steps, and the rest of us are linked to the world through those special few. (Caldwell, 2000) However, small world has it shortcomings too. For egg.

A small-world internet is efficient but also vulnerable to malicious hackers. A small-world electricity network delivers power well, but also enables minor faults to “ cascade” into catastrophic blackouts, as happened in August across the north-eastern US. Small-world networks, in other words, combine business with sometimes surprising fragility. Characteristics of Networks Various characteristics like virility, resilience of network emerges from the underlying structure of the network.