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MASTER THESIS

**DATA DRIVEN STORYTELLING IN CORPORATE  
COMMUNICATION: AN ANALYSIS ON  
LINKEDIN**

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## TEXT OF OATH

I declare and honestly confirm that my study, titled "DATA-DRIVEN STORY TELLING IN CORPORATE COMMUNICATION: AN ANALYSIS ON LINKEDIN" presented as a Master's Thesis, has been written without applying to any assistance inconsistent with scientific ethics and traditions. I declare, to the best of my knowledge and belief, that all content and ideas drawn directly or indirectly from external sources are indicated in the text and listed in the list of references.

Maliha Kamran



Signature

.....

\_\_/\_\_/2020

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Maliha Kamran

Izmir, 2020



## **ABSTRACT**

### **DATA-DRIVEN STORY TELLING IN CORPORATE COMMUNICATION: AN ANALYSIS ON LINKEDIN**

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Storytelling with data has become an essential component of many fields, such as journalism, corporate communication, graphic design, and advocacy causes. New techniques for assimilating data visualisation into the narrative have become common, and authors and designers can narrate the same story differently. I concentrated on the study of narrative visualisation and its techniques through the collection of data-driven stories on LinkedIn. Drawing from the result of the analysis I presented, the common narrative techniques being used and formulated within four categories are communicating a narrative and explaining data, linking separated story elements, enhancing structure and navigation and providing controlled exploration. I described each of these techniques with examples through data-driven stories. Additionally, I discussed how storytelling was evolved. Finally, I concluded that more research work should be done on the technical part of storytelling.

**Keywords:** Storytelling in corporate communication, Visual communication, Data visualisation, Narrative visualisation, Digital story, LinkedIn



## ÖZET

Kurumsal İletişimde Veriye Dayalı Hikaye Anlatımı: LinkedIn Üzerine bir Analiz

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Verilerle hikaye anlatımı, gazetecilik, kurumsal iletişim, grafik tasarım ve savunuculuk gibi birçok alanın önemli bir bileşeni haline gelmiştir. Veri görselleştirmesini anlatıya eklemeye yönelik yeni teknikler yaygınlaşmış ve yazar ve tasarımcılar aynı hikayeyi farklı şekilde anlatabilmeye başlamışlardır. Bu çalışma, LinkedIn' de veri odaklı hikayelerin anlatı görselleştirmesi ve tekniklerini ortaya çıkarmayı amaçlamaktadır. Analiz sonuçları yaygın olarak bir anlatıyı ileten ve verileri açıklayan, farklı öykü öğelerini birbirine bağlayan, yapıyı ve navigasyonu geliştiren ve kontrollü keşif sağlayan dört kategori kullanıldığını ve formüle edildiğini ortaya çıkarmıştır. Bu çalışmada tekniklerin her biri veriye dayalı öyküler aracılığıyla örneklerle açıklanmıştır. Ayrıca, hikaye anlatımının nasıl geliştiği ve diğer alanlarla ilişkisi tartışılmıştır. Son olarak, hikaye anlatımının teknik unsurları konusunda daha fazla araştırma yapılması gerektiği sonucuna varılmıştır.

**Keywords:** Kurumsal iletişimde hikayeleştirme, Görsel iletişim, Veri görselleştirme, Anlatım görselleştirme, Dijital hikaye, LinkedIn.

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## INTRODUCTION

Storytelling and visual expression have become an integral part of human culture, and it is considered as the world's second-oldest profession, according to (Segel & Heer, 2010:1139). The term storytelling has a long history and has been used in different domains. It brings meaning without one single agreed-upon definition. Firstly, storytelling is defined by controlled delivery and presentation of information. The information can often be with, or without narrative structure (Segel & Heer, 2010:1139). In business communication, conveying the message to one's audience by converting data into a story that resonates with the audience often brings positive change. Corporations have updated their methods of communication, and data visualisation is another way to communicate essential messages encountered within the business intelligence companies. Data visualisation is more than just charts and graphs but goes beyond the creation of a narrative that represents the story of the organisation (Zaino, 2019: 1). Any image or a simple chart with explanations or reading aids can, therefore, be considered a visual data story. To further understand and identify data visualisation, it is essential to understand the different approaches of scholars; for instance, Segel and Heer (2010:1139) argue that visual stories consist of narrative or just a series of related events. In contrast to this, Hullman and Nichlos (2011:2231) described data visualisation as a style that links interplay strategies to explain insights obtained in communication, persuasive and rhetorical approach for protecting the planned story (Scope, 2015:2).

Data stories differ from traditional storytelling. It is because traditional storytelling reflects the collection of events in a tightly regulated progression. At the same time, with data stories, the business can tell stories in a linear sequence through visualised data. It gives businesses a chance to present data interactively and provide alternative explanations (Segel & Heer, 2010:1139). Furthermore, Jock Making "Raw data and visualisation will captivate readers by encouraging them to discover themselves." The use of data-driven storytelling has also become an important method for continuing to generate new business challenges as the players continue to evolve and improvise to stay ahead in the race. However, not much literature is available on data-driven storytelling concerning corporate communication.

## **Aim and Objectives**

Visualisation and data-driven storytelling are the most commonly used terms in the corporate world. Data is everywhere as a raw form of information. Still, its effective usage underlies within the fact that what is being done with the data and what kind of experiences are we tapping into, to add value to it. This thesis explains the importance of data-driven storytelling and common techniques used for it. Data-driven storytelling is a technical approach used by different organisations. A lot of evidence shows that scientific facts and graphs can persuade and convince the audience.

With the trend of data visualisation in people everyday life, there comes an opportunity for corporate sectors to tell stories through interactive and attractive techniques of data visualisation. LinkedIn is an essential platform for promoting brands stories. LinkedIn elegantly communicates the data in different ways to inform, interconnect and positively impact the life of the user. It converts data into life and utilises it to tell a story to the audience. Therefore, the objective of this thesis is

1. To understand what is data-driven storytelling in corporate communication.
2. To reveal common techniques used in data-driven storytelling of LinkedIn on their own platform.

## **Methodology**

To analyse and describe the data-driven storytelling approach, different research articles, hypothesis, and frameworks have been examined for the literature review. After a detailed literature review, a framework is developed to reveal common techniques used in the digital storytelling of LinkedIn. As a sample, 60 videos are collected, which are previously shared on LinkedIn by the company's official account (see appendices). The videos have been assessed through quantitative content analysis methodological approach using the framework. After analysing the common techniques on LinkedIn videos, the most engaging videos have been identified while considering the number of likes, the number of views and the number of comments the videos have received.

## **Scope and Limitation**

The result of this study was influenced by the following factors.



1. The number of stories in the sample has been limited to 60, as they were newly posted stories every day, including how human mind perceive story depends on several other factors as well.
2. The number of views for every video in the sample might be not available due to a technical problem. Thus, results could be affected.
3. The study is confined just to analyse the techniques, and coders have made efforts to ensure content validity and reliability. The instruments have been reviewed before the use.

### **Research Questions**

Following are research questions this thesis will try to find answers:

1. What are the common techniques used in data-driven corporate storytelling of LinkedIn videos recently?
2. What are the common techniques used in the five most engaged data-driven videos of LinkedIn?

# CHAPTER 1: VISUAL PERCEPTION AND CONCEPT

It is important to understand the terminologies and the basic concepts, which are the foundation of the research. The current section, as chapter 1 forms the basis of the thesis in understanding how image and text help customers and individuals to form perception.

## 1.1 Text vs Image

Throughout the mid-nineteen century, images have dominated the textual communication with the progress in technological innovation. Pictures and texts are used by humans to document their experiences. Since the beginning of human history, individuals have interacted visually through various platforms. As Brown (2015) pointed out; "Humans are wired neurologically and are disproportionately capable of visual receptors" (Dewan, 2015:1-2).

According to Ronald Barthes (1977:4) foundational study of image and text, the relationship of the two, visual and textual representation is based on a simple logic of three possibilities. These three possibilities form the foundation of how image and texts are interrelated and rely on penetrated observation (Martinec, 2005:341). He added three potential image-text relationships (1) text supporting image (anchorage), (2) image supporting text (illustration) (Barthes, 1977:4), and (3) the two being equal (relay), which Barthes (1977:2) characterised as logico-semantic and status.

He further said anchorage guides the viewer in describing and interpreting the image, and concerning illustration, he writes that image elucidate or realises the text (Martinec, 2005:341). According to Martinec, (2005:342) it can be interpreted as logical semantics concerned with matters and such as sense and reference. While rare in the fixed image becomes very significant in the film, the dialogues do not work just as an elucidation but function as an advance operation by setting in the message sequence, which is not found in the image itself (Martinec, 2005: 341).

In the similar realm of interaction and transfer of information, daily communication not only enriches ones' life, but it further helps individuals to understand information. Today, media or corporate companies rely on a limited amount of words, but more on images to get their stories and messages across. They often add text with a picture or video to paint a clearer picture. Additionally, different graphs, bar charts, and maps are also used as resources (Reyes, 2015:2). Consequently,

an image in a presentation does not only represent facts or figures, but it also gives opportunities to presenter or marketers to display emotions through coloured layouts. It helps to draw the attention of the viewers and readers. The human brain processes 90 per cent of information through visuals. Visuals are processed several times faster than text. Text is just another collection of ordered images if one comes to think about it. Words are set of small shapes, letters, and when to put together; letters are simply smaller shapes that can create a particular shape of a word. Considering that the span of human attention is only 8 seconds long to perceive and retain all the imagery and text, technology must balance brains capacity to perceive the images and attract the viewer for longer period of attention (Pant, 2015:3).

## **1.2 Visual Perception**

Humans are curious creatures who perceive images, visuals and things differently than one another. How they look at things, how they interpret, and what they see in the visuals in an environment filled with strong sensory material is called visual perception. Visual perception plays an essential role in our lives since the modern-age stories consist of digitalised visuals and help us to learn and interact with others. It is important for companies, marketers, videographers and filmmakers to understand what individuals see, and how do they perceive the images or visuals as. A picture is worth thousands of words (Fanguy, 2016:17).

Humans have refined efficient ways of passing information with visuals and storytelling. Visualisation means to create mental images that are maps for human minds' inner universe. Likewise, as an individual explores the physical world using landmarks, individuals can also explore through the psychological world by utilising their mental pictures or mind mark (The College of Metaphysical Studies, 2016: 1-2) Visual perception is an interactive process where eye movements help to pick the light pattern of individual's eyes (Braddick, 1995:9). Visual perception is characterised as a mental organisation and interpretation of visual sensory information. It enables human to gain awareness and understanding of the local environment (Capó-Aponte et al., 2009:335). Each individual visualises in different ways; some see mental images through sensing, while others see them as photographs. The picture can be hazy or blurry; it does not matter how the human mind encodes it. What's important is that one can recognise what they are looking at. Visual perception is integral when it comes to cognitive processing. Using the power of the mind, whether consciously or

subconsciously has been used and identified by many scholars in history. In 19 B.C.E., the famous classical author Virgil wrote in the Aeneid, "Mind moves matter (Wade et al., 2002: 597-603).

There are two ways through which learning can be developed: verbal association and visual imagery. These techniques of learning, along with others, are to be used separately. They may so be used to communicate, recall, or enhance learning. However, this theory has several shortcomings. It does not consider the possibility that awareness, apart from words and images, can also be mediated by other things. No further work has been carried out on this case. Human beings are continually surrounded by pictures and videos and consumed faster than a text.

Since humans live in a hybrid society, all the information is at their disposal. They are constantly tweeting, posting photos, bingeing, liking and sharing online. It makes the human mind clutter, and they prefer to relax, and let the information flow over through quick and easy consumption of information through watching videos and pictures. There is a long, complex process that takes place in the human brain while reading a text. Not only we see shapes written down but also decode them at the same time since they have different designs, sides, edges and corners. All words have a different meaning; there is no way to tell how time -consuming the translation phase is. Our brain can become tired and lose concentration, and picture is worth thousands of words as proven (Reyes, 2015:2).

## **CHAPTER 2: OVERVIEW OF VISUALISATION**

To understand the data-driven storytelling, concerning corporate communication, it is imperative to know the background, definitions and core concepts of visualisation. This chapter explains how visual communication was formed and how important it has become for an organisation to reach its goals through visualisation.

### **2.1 Visualisation**

Visualisation is a process of evolving knowledge by using natural human visual capabilities, awareness, and informational facts into visual form. Mayer's multimedia theory claimed that "Providing information from more than one medium of communication leads to better understanding". Words, however, can be more accurate and at times more powerful than pictures. Often images may be confusing in clearly reflecting the knowledge; depending on the visual and sensory interpretation of memories, perception and culture and deciding the correct colour. One needs to understand when words are equivalent and are better suited for understanding (Gershon, Eick & Card, 1998:14). Faraday and Sutcliffe, on the other hand, found that proposals provided with the sum imagery were and speech was better remembered than proposals provided only images (Ware, 2019: 332)

### **2.2 Making Visualisation**

Visualisation is half art and half science. It is defined and classified differently by numerous scholars based on the scope of the task. Similarly, Wehrend and Lewis (1990: 143) defines visualisation goals based on nine objectives.

1. Recognise (establish the characteristics by which the user can identify an object).
2. Find (the position of the object in total or relative term).
3. Distinguish (recognise one objects for being different from others).
4. Arrange (divide the set of objects into proper classes).
5. Cluster (a group of similar objects).
6. Rank (determine the order of objects).
7. Compare (note the similarities and dissimilarities).
8. Connect (link at least two or more objects based on their characteristics).
9. Correlate (set up a relationship between two or more objects).

Effective visualisation represents data with visual elements to communicate the information (Nusrat, 2017:50). It is also important to remember how the messages are to be perceived. Different people absorb information differently. For example, Malamed (2009: 43) in her book, emphasised a few principles about visualisation.

1. The designer must understand how the audience perceives, comprehends and interprets the message.
2. While designing visuals, the designers need to consider audience characteristics, such as age, visual literacy, expertise, motivation, culture and reading skills.
3. "Directing the eyes" recommended that designers can guide the viewer's eyes through the structure of graphics by utilising orienting cues such as colour, arrow, and captions.

According to Schriver (2010:86), she further discussed the "reducing authenticity" approach, encouraging designers to stay away from the high-fidelity image with colour, details, depths, textures and shades. Instead, they should strive for visual shorthand portrayals through illustration and iconic images. Half of the human brain is directly involved in the processing of visual information. Humans are visual creatures because they have a remarkable ability to remember pictures. The ability to remember things which are momentarily seen lets the brain determine where to focus the eyes, which in brief moments are called fixations. According to research, people can recall more than 2000 pictures with at least 90% accuracy in the recognition test (Romih, 2016:4).

To perform digital visualisation, one should have a clear understanding of how the brain functions along with technological know-how and should be aware of as to how communication objectives can be accomplished through visual aid. Different visualisation techniques are used by different corporations, which are discussed in the later chapters.

### **2.3 Advantage of Visualisation**

The trends of the modern-day world are slowly progressing towards the popularity of visualisation. This interest is partially linked to the increased availability of new software products and technologies which enable every user to take benefit from it. Exploring data through visualisation was promoted in 1973 by statistician

Francis Anscombe, who designed quartet, a group of four data sets with identical means and modes and average (Strecker, 2012: 2).

Various studies have demonstrated that mental practice via visualisation can be more efficient to improve skills in terms of practical implications. When a human mind visualises an activity, a similar region of the brain is stimulated as when that individual performs it, and the same neural network is created. It, therefore, helps to determine the kind of sensory information that the individual sees from his/her environment and what remains unseen (Pelletier, 2018: 17-18).

Corporate culture has become more visual than ever in terms of storytelling and ideas. Today, successful companies use interactive tools such as dashboards, storyboards and CRMS to visualise and manage their data. In a critical world of communication, visualisation helps companies to understand data to gain insight. Visualisation also helps to understand risks and action (Matias, 2008:3). Visualising data in this manner, therefore, provides an analysis at an advanced detailed level. People often need empirical evidence of the analysis performed regardless of whether they can comprehend the breakdown of analytics. People often want evidence and a story to be convinced (Matias, 2008:10).

## **2.4 Visual Strategic Communication**

In today's competitive world, organisations compete for attention, admiration, affinity, and arrangements, etc. In doing so, organisations make strategic decisions about the nature of resources and their commitment to such efforts. It is important to stress that not only corporate organisations but non-profit organizations also use visual strategic communication to reach their goals (Garcia, 2012:221).

The latest advancement in technologies effects media culture and the way images are used (Goransson & Fagerholm, 2018:46). First, we need to understand what strategic communication is and how it developed. Strategic communication is the intended use of communication by an organization to fulfil its mission. It provides particular information, stimulates the desired attitude out of its employees and consumers and encourages specific behaviours. We are living in an image-dominated culture (Molleda & Kochhar, 2015: 12).

The visual culture here is characterised, in a broad sense, including 2D pictures (photography, painting, videos, etc.), 3D artefacts that have become a strategic tool for

communication (Eriksson & Fundin, 2018:713). To build a visual communication strategy, an organisation should have fundamental demographics, theme creation, and develop voice and tone. Finding proper content to visualise instead of composing it into a text is the main difference between a good visual strategy and stale content (Holbert, 2015:1). Similarly, visual communication is the graphical representation of data from a marketing perspective. This aids in creating the meaning effectively while at the same time limiting the use of text to explain the meaning. The main purpose of the visual communication strategy is to grab the attention of the viewers while limiting the text at the same (Holbert, 2015:2).

According to Tversky (2014), utilising pictures in an early stage of the organisation could also cause deadlock because what has been viewed once cannot be unseen. Following points further explains its functions:

1. A visual strategy of the organisation is to convert their communication into visual form.
2. In the same manner, it can also define the credibility and relevance of communication.
3. It empowers the target of a specific group with who will react to certain messages.
4. Visual strategy can develop and characterise corporate identities in a subtle way.
5. The visual strategy offers an organisation to be present in multiple forms (The Vision Thing, 2018:22-24).

The study of visuals was initially developed from art during the 1950s. As the historical background of film and photography ages back then, it was developed through its relation to the pop culture (Goransson & Fagerholm, 2018:4). At that point, researchers from numerous fields started to notice visual culture (Goransson, & Fagerholm, 2018:2).

There is no questioning about the influence of pictures in modern communication. Social media is an inexpensive tool that allows the business to engage directly with existing consumers and potential customers. In the social media domain, visual content is a time-bound platform for posting an article that contains at least one picture, which gets twice the shares than those with text alone (Julian, 2020:2). Strong



visual interactions are quicker and more emotional with the viewers. Organisations are using social visual strategies to attain a currency of likes, share and followers to survive in the market. Today visuals cues are everywhere in almost everything. One does not have to visit an art gallery or read an art design book to experience visual communication. Instead, in this era, social interaction could be scrolling through a news feed and choosing an item of interest. These items are referred to those posts which grab attention, and therefore such brands and posts win first. The concept of visuals is just not limited to advertising, films, and graphics (Goransson & Fagerholm, 2018:3-4). One of the theories justifying the concept of visual comes from the study of Barnhurst, Vari and Rodríguez (2004:618). This theory has added to the field of visual communication. It has its origins in the traditional disciplines of social sciences and humanities when it comes to organic and physical perspectives of natural science (Barnhurst et al., 2004:627). According to scholars, it is important to understand how visuals fulfil the role of organisations.

Barnhurst et al. (2004:627) proposed that there are three visual approaches in communication: rhetoric, visual studies and visual communication. Martin's hypothesis is also based on the same proposed interdisciplinary perspective by Barnhurst, which he further modified and added the fourth category called visual strategy (Goransson & Fagerholm, 2018:14), which surpassed all of the above. All communication has a visual dimension. For example, public relations and advertising often depend on the visual language (Barnhurst et al. 2004:619). To discover the roots and branches of visual communication as a research field, rhizomes analysis was utilised (Goransson & Fagerholm, 2018:3). Furthermore, A rhizome is an analogy that a researcher uses to layout visual communication as an avenue to explain the intricacy and elements of the field. The analysis includes recognising the modes of discourse as well as the relevant discipline that add up to developing the field of visual communication (Goransson & Fagerholm, 2018:3).

## **2.5 Visual Rhetoric**

From ancient Greece through the renaissance, rhetoric was a major component in education. Rhetoric commenced as the art of public speaking. According to Aristotle, who was first to provide a systematic account of rhetoric, rhetoric is the capability to see what is persuasive in each given case (Tham, 2016:1) Visual rhetoric

is a form of communication that uses images to manufacture an argument or to make meaning (Goransson & Fagerholm, 2018:4).

It is about how pictures, alone or with other components, create an argument that is designed for an audience to display data through an image (Goransson & Fagerholm, 2018:5). Successful visuals can provide clear information, build credibility and attract attention. It is the visible evidence, or the product of creative art, such as advertisement, a photograph, or a painting which communicates the information, for the rhetorical scholar interested in visuals. Visual rhetoric is also known as a critical and analytical tool or technique for approaching and analysing visual data that features the dimension of image or objects. Finnegan defined visual rhetoric as a "form of inquiry" (Foss, 2005:141).

## **2.6 Visual Studies**

During the late 1950s, scholars from different fields started observing visibility in culture. For example, Barthes (1977:616) brought semiotic structures of imagery in the public eye. According to Hall and Hall (1959:96), the anthropologist ended up being delicate to spatial and non-verbal signs (Barnhurst et al., 2004: 616). Technological change in graphic arts also drew attention among media practitioners. Art theory introduced by John Berger in the analysis of advertising and visual communication entered the mass communication scene (Barnhurst et al., 2004:616)

In Visual Studies, Hall's theory of Encoding and Decoding is considered a basic foundation (Goransson & Fagerholm, 2018:7). The main fundamental approach of this theory is that there is no single meaning for a message until the group of public acknowledges it (Goransson & Fagerholm, 2018:7). James Alkin, an art historian and critic at the school of Arts Institute of Chicago, characterised visual studies as "A set of overlapping concerns" (Barnhurst et al., 2004:620), rather than characterised discipline. He further objected to the complacent consensus of few theorists like Barthes, Benjamin, and Micheal Foucault depicting that visual studies are based on under-examined discourse, and it is too narrow in its theory and object of study and overly concerned with social meaning rather than form (Barnhurst et al., 2004:620)

## **2.7 Visual Communication**

To define visual communication, one expects to see many unifying theories that lead to the development of the content. However, in visual communication, there

is no unifying theory as it represents an intersection of thoughts from many different traditions. Let's first try to understand the most difficult puzzle of visual communication aesthetics. It is imperative to understand the beauty of nature and how it affects us so deeply is an enigma. It is implied that the nature of aesthetics is non-verbal, and what can be written about nature is the only speculation. The aesthetics aspect of communication is visible, structural, and configurationally in nature. It is largely implicit in understanding, along with its holistic nature in passing meaning (Barry, 2004:67).

In simple terms, visual communication is about how readers and writers interact through the look of pages or screens. The communication one through sight is also known as visual communication such as gestures, eye contact, maps, charts, graphics, posters, etc. The visual presentation has a tremendous impact on our practical life. It helps the organisation to turn complex data into simple information through the use of a graph, diagrams, etc. Therefore, visual communication is communication where information and ideas can be viewed and read through visual aids (Lin, 2013:2). The world of visual communication has evolved with technological advances. It has become an essential tool for business organisations that can assist companies in addressing dynamics, resolving threats and achieving goals through visual aids, and visibly deliver their messages. Visual communication has a broad range consists of photographs, signs, symbols, graphics, illustrations, colours, animation, advertising, design, etc. For example, if you are promoting a product or a service that spreads around different geographic areas and in different languages, an image can convey your message with more clarity rather than text, because visuals don't represent any language or cultural barriers.

To see is to believe, a picture or chart or graph is not only a means to grab attention but also to win the audience's trust. A few catchy phrases can attract the target market, but a nice picture or an interesting video of your product and service can guarantee a positive response and helps to earn their trust. But on the other hand, not all can be conveyed through images. For example, try explaining the company's new policy regarding overtime through an image, before it is bogged down and hard to describe, a picture can convey so much detail. Sometimes oversimplifying can be problematic while dealing with complex problems. For the message to be clear, visuals must be paired with audio and text as well.

## CHAPTER 3: STORYTELLING

This chapter evaluates why storytelling is an important domain and essential skill. Storytelling is explained through a theoretical perspective, and different forms are explained. The chapter indicates how stories connect with people, brand, and business.

### 3.1 Stories

In the beginning, it appeared that listening to a story, telling a story or to differentiate a story from other forms of poetry and prose, was a matter of relative simplicity and unconsciousness. However, if we start to think about the significance of storytelling as social or cultural reform instantly, we begin to raise questions about its definition. "The value of a good story is priceless"(Hermansson 2008 as cited in Du Plessis, 2015:85)

Storytelling describes a collection of forms and practices that are heterogeneous. It is something for which the English language, unlike Gaelic, Italian, and French, has just a single same word. The word storytelling is utilised and is used to connote, what are and were, boundless and extraordinary practices and activities in a wide range of contexts.

According to a report titled "Storytelling in Ireland: A Reawakening" "the word storytelling can mean numerous things. Every individual holds a different idea of what it is. However, to make a sufficient evaluation of storytelling, one must set up a working definition. It must be sufficiently specific to provide a workable meaning, but broad enough to encompass the wide range of activities, individual identity as storytelling (Brown, 1997:1-2). The main crux of the matter is that storytelling has been an essential part of culture through history, not just for passing on knowledge, values, entertainment, and desired behaviours from generation to generation.

Whether stories are painted in caves or posted on social media, they both can transmit an equally powerful influence (Spear & Roper, 2016:1-2). Secondly, storytelling is divided into two parts: the content of the story and how a story is performed. Stories are our safe refuge. Stories and imagination, not only help us to mould our lives, but in the same way also helps us to evolve, and make deep connections. For example, children play with their imaginations, whether pretending to be adults or playing with imaginary weapons forming their kingdom (Jundt, 2016:8).

Furthermore, the research indicates storytelling has an enduring effect on one's imagination, creativity, and critical thinking (Proskurina, 2018:21).

In the same way, through stories, corporations define "what do they stand for" and for "who they are." Humans are bound with stories. We do stories, even in the worst conditions, even in wars. The role of stories is far more conventional than novels or films. The Neuroscientist Daniel Levitin said, "We hear about five hours of music per day. It sounds impractical, but Levitin counts each and everything like movie scores, elevator music, commercial jingles, and all the stuff leading into our brain through earbuds." We, humans, are creatures of stories it touches nearly every aspect of our lives. For example, archaeologists discover clues about old stones and bones and combine them to make a saga about the past. In the same manner, historians are also storytellers, and business executives are told that they must be creative storytellers to sell the narrative about their products and brands that can emotionally influence their consumers (Proskurina, 2018:21).

A corporate story is just not limited to visual attributes, logos, and brand name, but it also needs a compelling story to persuade customers. The terms storytelling and narrative are quite puzzling and are often used alternately (East et al., 2010:18). The narrative is the representation of reality from another point of view. It's an entire an inside predictable, independent unit of articulation. To reconfigure reality to create meaning. Jean- Luc Godard said, "The narrative consists of a beginning, a middle, and an end, but not imperatively in that order" (Hazel, 2007:2). "The narrative is the main manner in which our species sorts out its comprehension of time and the capacity to oversee time smoothly within the narrative allows events themselves to create the order of time (Abbott, 2002 as cited in Hazel, 2007:3).

Storytelling has a long history and has been used in many domains. Secondly, according to a theoretical perspective, storytelling is often explained as something as an individual user to make significance in their own life. Third, storytelling is a communication tool used to organise and interpret individual and collective phenomena as well to make sense of personal and shared experiences and dialogues. A human being is a social creature and always relates to stories to strangers. It is an efficient way of transferring information and values from one community to another (Zak, 2013:1). In the same fashion, it is also a form of communication that expresses dramatic code (Truby, 2007:3).

Fabula in English is usually known as a story. "Story can be considered a series of an actual event in the natural order, and it's what happens in the fictional world" (Ramsdell, 2011:274). As compared to what Vladimir Propp, who is famous for his essay on narratology and one of the most cited researchers, said "Narratives are character-driven and stories don't exist without characters. From the start to the end of the story, everything happens through characters. He further believed that narratives are based on heroes' own story". According to his theory of folktales narratives, there are thirty-one distinct functions like a hero, villain, the dispatcher, the helper, the princess or prize, donors, the false hero, etc., (Cavazza, 2006:73).

Another famous American scholar, Joseph Campbell, identified "The hero's journey as a pattern of narrative which appears in drama, storytelling, myths, religious ritual, psychological experiment". He further said we all are heroes, struggling to achieve our adventure as a human being. We engage in struggles to develop as individuals and to discover our place in society (Miller, 2011:2-5). He described the hero as the main protagonist who goes out and accomplished great things on behalf of a group or civilisation. He categorised storytelling into three distinct parts: the separation, the initiation, and the return of the hero (Miller, 2011:3-4).

The Dramatica model is also known as a narrative model. According to Dramatica, stories are related to a single human mind trying to solve a problem regardless of whether the problem is solved or not. It is determined by story dynamics that some problems are solved, some are not. The story mind does not work like a computer, performing function after another until it can obtain a solution, rather it works like our mind bringing many conflicts together. The author argues that solving a problem gives the story its meaning (Hull, 2020:16).

### **3.2 Corporate Storytelling in Corporate Communication**

According to Denning, "Storytelling is a fundamental phenomenon for nations, societies, and culture". Stories can transcend different age groups, societies, and gender, to catch the attention and imagination of the audience, regardless of their background (Gill, 2011:18). Firstly, corporate storytelling is vital for an organisation. Secondly, an organisation's story is what lies behind and between its messages (BBCO, 2014:7). Dowling said, "Corporate stories serve to clarify the behaviour of the organisation along with its main goal and ethical quality". It mobilises the organisation

to drives its decision making and aligns the organisation (Rainio, 2014:25). In the same manner, Brian Lewis, VP of the eMarketing Association, said, "We make sense of our world and our place through stories. Stories provide stimulation of knowledge to act and provide inspiration and motivation to act" (Mayhew & Wood, 2011:4).

Corporate storytelling is a process of making deeper engagement with employees and opening up more engaging internal communication channels where individuals apply their intrapersonal interpretation and more enthusiastic association with generic content (Gill, 2011: 20).

Storytelling has gained acceptance from corporate communication practitioners and marketers because it has the power to evoke emotions. It is used as a strategy to establish relationships between employer and employee. Moreover, stories can have both a high social presence that brings individuals physically and mentally closer and a media richness through a variety of channels. Today successful corporate stories are not just about their brand stories or about what the company has done and where it came from but about what their customers can do and where the brand can take them. Nike's 'Just Do It' is a good example of storytelling. What 'it' may depend on the aspirations of each individual, whose personal stories became part of the company's own (Norlyk, Lundholt & Hansen, 2014:105-111). Corporate stories do not just inspire and engage people. Its main purpose is to connect people in a meaningful way so that people can look at not just a corporate story but also see themselves in the story.

Corporate storytelling is a currency of human relationships among internal and external stakeholders (Barry & Elmes, 1997:431). It helps in understanding the company's values, its past, and the vision for the future to gain employee trust and support to help them in enhancing the company's reputation (Boje, 1991:124). Similarly, the most famous corporation "Coca-Cola" in November 2012 reinvented its corporate website into an interactive digital magazine while retaining the same URL ([www.cocacola.com](http://www.cocacola.com)). The site was rebranded as "Coca Cola Journey" and launched as a story sharing hub for the company and its brands. They rearranged the website which offered articles on subjects like business, entertainment, environment, health, sports, interview, opinion column, interviews, audio, videos, photo galleries, and blogs. They also had Coke-themed recipes along with an archive of memorabilia

which includes sustainability stories, investor information, and business-oriented content (Mighall, 2017: 168).

### **3.3 Digital Storytelling in Corporate Communication**

It is important to realise that people tell stories about every new piece of communication technology they invent. Marshal Mc Luhan once said, "Medium is the message" (McLuhan & Fiore, 1964:100). It means that the nature of the medium is important. He further used the term message to signify the character and content. Medium is an important aspect of how we experience and interpret a story, and without it, the story would be incomplete. Digital storytelling is known as the practice of combining narratives with digital content, including sound, images, video, and a strong component. Secondly, digital stories can be interactive in the form of movies, games and audio, and visual effects. According to Barret, digital storytelling is the new expression of the ancient art, of storytelling. Just like traditional storytelling, digital storytelling is a circle around a specific theme and a particular perspective (Robin, 2008:222).

On the other hand, the transition from specific traditional storytelling to digital storytelling was started by Dana Atchley in a joint effort with Joe Lambert in enlarging multimedia technology into the traditional story. Based on a mixture of text, graphics, audio, and the narrative are delivered simply and memorably to cultivate communication, collaboration, and creativity skills (Hussain & Shiratuddin, 2016:1). He was known as a media producer, artist and was also famous for his multimedia biography "Next Exit". He used computers to create a story to perform live or through the internet. He stated that "stories are how we let people know where we come from and who we are". Digital storytelling started with short stories, and today it has surpassed many domains. It is available in the form of interactive digital storytelling, Web-based storytelling and multiplayer role-playing games, etc. (Tenh, Shiratuddin & Harun, 2012: 397-398).

Similarly, organisations use technology and computer-based tools for their messages. Unlike other organisations, Expedia.com is one organisation that has a good social presence. They offer a genuine veritable of customer's interactions, from a Facebook scavenger hunt for big travel prices to weekly twitter chats with price bonds to a video contest for young filmmakers. Robin, in 2008, stated that digital storytelling



is a mixture of the art of storytelling with different digital media such as audio, video, and graphics. Digital storytelling is commonly used in different fields, such as health, education, tourism, communication, and sociology. It has appeared to be a powerful teaching and learning tool. Educators use digital storytelling to introduce new content and to present their ideas. Today, classes are well equipped with digital software and hardware because of technological advancement.

Digital storytelling is used to tell personal narratives about important events in life or to examine historical events in as for present information for educational purposes. It has been considered as one of the most powerful techniques in the teaching and learning process to build communities and in providing communication (Cirali & Usluel, 2015: 5026). De Jager et al. 2017 took a different approach and considered digital storytelling as a genre, along with poetry, dance, and theatre. Nonetheless, the definition gives an impression of being too narrow and is not appropriate for non-video content and compares storytelling with participatory art-based research activities. However, there is not much work done in the field of digital storytelling with communication and corporate communication perspective. These result in the lack of digital story definition as well as a lack of understanding of what constitutes the scope of digital storytelling.

As mentioned above, stories connect with people, brand, business, product and their dreams. Similarly, a business cannot be prosperous without connection. As discussed before, people are not attracted to facts and figures, so organisations need to tell the story of the problem they are trying to solve or a product which they are trying to develop. As organisations are using storytelling tools to compete in the market, every piece of content must have a value and intention that supports the business. Secondly, every business organisation should use storytelling to simplify complex messages and convey the purpose to the world. Most successful companies have profound stories behind them often genuinely bound with their founders; for example, Amazon founder Jeff Bezos, created his online bookstore, in 1994 at the dawn of the internet era. The main office was in the garage at that time, and an old door served as his desk. But today it is known as the largest online retailer. Another example, Roy and Walt Disney filmed their first animated film in the one-car garage of their father. Today, it is the world's largest media conglomerate making movies and operating theme parks and TV channels. Hence it suffices to say humans are bound with stories.

## CHAPTER 4: ENHANCING VISUALISATION

This chapter describes data visualisation and explains its characteristics. It explains how information is presented through pictorials or graphics. Furthermore, it explains how data visualisations help to present complex information simply and persuasively.

### 4.1 Data Visualisation

Data has been produced in different forms and has been utilised for different purposes for hundreds of years. Each endeavour attempts to find a suitable definition that inevitably raises a question; what is the main purpose of data visualisation? "The main purpose of visualisation is to understand insight, not pictures" the term insight makes it lucid that the current study is referring to the human experience. Visualisation of data is the information, presented in pictorial or graphical form (Shivaraman, 2017:1). In the same manner, Manovich defined data visualisation as the process, "quantified data which is not visual itself is changed into a visual representation" (Manovich, 2001:28). However, in his definition, he omitted data that already has a visual nature in raw form. Later Manovich observed the difference and clarified the meaning and application of visual data. He presented the approach of "direct visualisation" for data which is visual in raw form. Distinctive to most visualisation techniques, this methodology utilises thumbnails of the raw data as the visual presentation and does not change it by another visual object, such as a rectangle. Not only shapes can represent a data record, but colour, and particularly the tone of shading can also be used for visualisation.

As for the benefits of data visualisation, human beings' learning practices are worth examining. The research has demonstrated that human beings learn better with visuals. When researchers gather data that consists of numbers, it is in its complicated form, which is hard to understand and interpret. However, when similar data is put visually, for example, in a pie chart, people instantly understand the importance of numbers and easily interpret information. Data visualisation describes and gains insight into a large amount of information. It is accomplished through visual representation, often interactive of raw data. To analyse data visualisation, one should count the different dimensions it represents. By this, the study means the quantity of a discrete sort of data that is encoded visually. The more numbers of data dimensions,

the more complex visualisation is. It becomes challenging to encode visually. Data visualisation was first developed by humans but is described algorithmically with charts graphs or diagramming software. The benefit of this approach is that it is easy to update, change and regenerate visualisation through more or new data (Steele & Iliinsky, 2011:3).

Today, data has turned out to be prominently implanted in our lives driven through technological advances such as in social media. Data in the business domain is typically associated with structured data fitted within distinct recognition, categorisation storage, and query (Morre, 2017:127). Data visualisation, or as we discussed above "information visualisation" is the process of "representing information as a visual image" in which an image is made using different combination of lines, number coordinate systems, symbols, shading, and colours to represent different measured quantities (Li, 2005:1). Every visualisation gives insight into some data. Some of the visualisation insight may not be known, while others might not be known or be even new and unexpected for us. Some new insight might be considered the beginning of a story or, others may be the result of the error that can be discovered from analysing the data. Data visualisation consists of two categories: exploration and explanation. Both of them have different purposes, techniques, and tools. These two categories are explained below.

#### **4.2 Data Exploration**

Data exploration means effectively extracting knowledge from information, even though the user might not have the foggiest idea of what they are looking for. However, exploration is usually done when data has high granularity (Steele & Iliinsky, 2011:1). Such a form of visualisation is usually a part of the process of data analysis. J.W., it has been explained that with exploratory data analysis, the researcher explores the data in many viable ways, together with the use of graphical tools like histograms, and boxplots. Similarly, data exploration is the key ingredient for a range of discovery-oriented applications, e.g., medical domain, genomics, and monetary analysis (Idreos, Papaemmanouil & Chaudhri, 2015: 277).

#### **4.3 Explanatory Data**

The goal of explanatory data is to educate. Likewise, visual depictions help to educate and upskill. Second, its main focal point is to elaborate on concepts or

procedures rather than a data set. Third, is to elucidate what is going on, why it happens, and how it relates to different principles (Roberts et al., 2017:793). By contrast, explanatory data is relevant when you are already aware of what your data says, and you are attempting to narrate a story to somebody else. In other words, you need to make some editorial decisions, about which information stays which is relevant or which gets edit because of distortion or other reasons (Steele & Iliinsky, 2011:3).

Data visualisation is likewise a part of the presentation process, such visualisation maybe its own or maybe part of a larger presentation newspaper article or study (Steele & Iliinsky, 2011:3). Therefore, visualisation is typically interactive with the aid of graphics. Besides, visualisation is typically an interactive interface that enables the user to pick and restrict. Similarly, it is also informative and exceptionally serves the relationships between the reader and data. It aims for the impartial presentation of information in such a way that educates readers. It is also persuasive and serves the relationship between designer and reader (Steele & Iliinsky, 2011:3). It is useful when the designer wants to change the mind of readers. It presents a precise point of view, advocates a change of opinion or action on the part of the raw data (Steele & Iliinsky, 2011:3). Hence data visualisation helps to structure and simplify complex real-time data and especially aid companies that have to deal with a large amount of raw data. It helps decision-makers to see analytics visually, so they can grab difficult concepts or classify new patterns (Lin, 2013:5). From an organisation's point of view, data visualisation is required to make a better business decision (Shivaraman, 2017:2).

As mentioned above, data visualisation means presenting information in a pictorial manner or through a graphical form via graphs, pie charts, etc., (Cordray, 2017:1). It makes it possible for the audience to understand the trends faster. Visually attractive graphics collect power from content and interpretation beyond the display of numbers. Similarly, interactive information can help the audience to drill down through various information layers. Nevertheless, reports made through a data visualisation tool enables complex information on operational and market conditions to be encapsulated in a short series or single chart. Through interactive elements and the latest visualisations tool such as the dashboard or charts, decision-makers can easily understand it. Rich yet relevant graphics help and engage business executives or stakeholders on the problem and pending initiative. To this end, a designer needs to

imagine words, numbers, and pictures together, and present an open complexity of information and often have narrative consistency, a story to tell about data. Like other things, visualisation can also have its drawbacks, for example, the ability to capture and simplify large amounts of data to simpler, and understandable term. However, it is easy to go too far with this, trying to take millions of data points restricts their findings to a handful of pictorial representations can lead to the unidentified conclusion or completely ignore major changes that could completely change the assumption that the business might be going through. Secondly, another problem with visualisation is that sometimes consumers can start over-relying on visuals to view information at a single glance. They can perceive the conclusion as absolute truth, not dig deeper into the data sets that are responsible for producing visuals thus can get easily manipulated (Alton, 2016:6). Thirdly there are many different types of data out there, and different analytics and resources are required for each of these types. For example, if you want to present a comparison of revenue growth of 10 years, it is easier to use a bar chart that can show a difference in a glance.

Data visualisation is developing at rapid speed, and I am not going to argue that it should be stopped. It can be an extraordinary tool for development in countless different areas if it is developed in the right way.

## CHAPTER 5: CONCEPT OF NARRATIVE VISUALISATION

This chapter explains what is narrative visualisation with concepts of different scholars and explains the main techniques used in research. The techniques are explained in detail and discussed with examples.

### 5.1 Narrative Visualisation and Techniques

The narrative is characterised as a spoken or composed record of connected events. Firstly, the narrative has an enormous variety of genre, conveyed through different substances as if any material is fit to human stories. Ready to be transmitted with articulated language, spoken or written, composed or moving images, gestures, and the arranged mixture of these substances arranged. A narrative is present in myth, fable, tale, epic, history, novels, drama, comedy, mime, painting, cinema, news item, conversation, etc. (Hyvarinen, 2008:450). The three successive moments may explain how narrative is used in social research. At the first stage, narratives were utilised as accurate resources. The second moment was described as a study of narrative as text with a specific form. The third-moment incorporates beyond the separate narrative text, into the study of narratives and storytelling in a different form (Hyvarinen, 2008: 447).

Burner (1991); Gergen (1993) claims from a hermeneutic perspective, "Human life is a procedure of narrative interpretation," quite freely and before any narrative analysis. Similarly, Ronald Barthes said, "The narrative is the most important and has an immense variety of genre ". It implies there is no proper definition unanimously agreed upon by scholars (Hyvarinen, 2008:447). The first paper on the use of storytelling in visualisation was presented by Gershon and Page in 2001, but in 2011 it gained massive attention from the research community. Narratives were and are still instilling values, entertain, educate, spread news, and register significant events and have gained huge importance in society. As of lately, this possibility to transmit values has delved into robotics. In their paper of 'Using Stories to Teach Human Values to Artificial' Agents, Reidl and Harrison (2016:111), investigate the use of short stories for artificial intelligence to learn the social show. They both further said in this paper that computerised reasoning can pursue and comprehend stories and can learn values tacitly held by culture and from where the story originates. The framework learns by getting the reward each time it responds as a human would in a social situation and

punished when it doesn't which was recently learned from short stories (De Ponte Figueiras, 2016). Narrative concerns how an author explains a story. The narrative structure incorporates events and representations of characters. Story visuals contain change between events. It involves using a tool to visualise, evaluate data and create visualisation through images, graphics for a presentation, and afterwards choosing how to transform string representation into a compelling and yet understandable sequence of stories (Tong et al., 2018: 2)

In 2010, Segel and Heer introduced the term narrative visualisation to characterise asynchronous storytelling using a data-driven graph. They classified seven genres of narrative visualisation: magazine-style, annotated chart, partitioned poster, flow chart, comic strip, slide show, and film/video animation, and presented three design patterns for interactive stories: the martini glass structure, interactive slideshows, and drill down stories (Stolper, Lee, Riche & Stasko, 2016:2). Combining storytelling with visualisation helps to simplify and give a proper explanation about the subject. It is because adding a narrative element creates a structured path (De Ponte Figueiras, 2016). Some researchers concentrated on the narrative structures completely for data visualisation. Satyanarayan and Heer, through interviews journalist, described the centre core of the narrative visualisation parameters, dynamic graphical and textual annotation and interaction triggers. However, it mainly focused on narratives for structure visualisation (Wang et al., 2018:780). James Richardson, Senior Director Analyst at Gartner, said, "How organisations deliver business analytics insights are advancing eminently in the rise of using data storytelling." (Petty, 2018:3). Data stories investigate and clarify how and why it changes, through a progression of linked visualisations after some time.

In contrast, visualisation is the key component of data storytelling; it is a bit of a three-part strategy where storytelling equals a combination of visualisation, plus narrative plus context. It is essential to remember that no single type of visualisation will work for all situations. Data and storyteller need to pick fitting visualisation depending on the sort of data they want to represent. Organised into time or conceptual sequence, these visualisations can be moulded into a narrative to help uncover discoveries, trends, and patterns (Petty, 2018:6). In the following parts, techniques are explained and discussed in a detailed way.

### **5.1.1 Communicating Narrative and Explaining Data**

Usually, all authors use the storytelling method linked with other mediums such as writing, in conjunction with data to aid, explain, and communicate messages. One technique is known as a textual narrative to bring out key points, to infuse the visualisation throughout. The long textual narration doesn't have to be magazine or article style. Authors often use an audio narrative as well. It helps authors to tie together the elements of the story intimately. Many stories also use textual annotation, which helps the reader to understand the narrative structure and to communicate narrative and messages. In some cases, annotation often uses flow chart arrows to connect the elements of the story. These annotations can direct the reader's attention to different aspects which are crucial to the story (Stolper et al., 2016:4). Below, Figure 1 and Figure 2 present the examples of text narrative and text annotation.



**JACUZZI LAUNCHES SUCCESSFUL SMART HOT TUBS IN SIX MONTHS**  
 How Particle helped Jacuzzi ship an IoT product to market

Particle  
 Jacuzzi

**6 Months**  
 Jacuzzi ships their IoT hot tubs to market in just 6 months with Particle.

**Millions in Savings**  
 Jacuzzi will save millions with IoT-based predictive maintenance.

**↑6% Sales Price**  
 Jacuzzi increases average sales price by 6% due to new IoT functionality.

“Choosing an IoT platform and partner was challenging given all the noise in this space. Particle was able to quickly demonstrate the capabilities of its platform, and the importance of integrated hardware and software that I’ve come to appreciate. Particle’s x-factor was their team’s ability to quickly understand our business and be an active participant in driving our strategy and technical implementation.”

**Larry Ovalle**  
 Director of Marketing, Strategic Growth at Jacuzzi

**Jacuzzi seeks innovation with the Internet of Things**

Before Particle, Jacuzzi had a simple idea to transform their hot tubs and enhance their customer’s experience with IoT technology. While the company was aware of - and interested in - reaping the benefits of an industry-scaled IoT solution, Jacuzzi didn’t have sufficient resources to implement the hardware, software, or connectivity on their own.

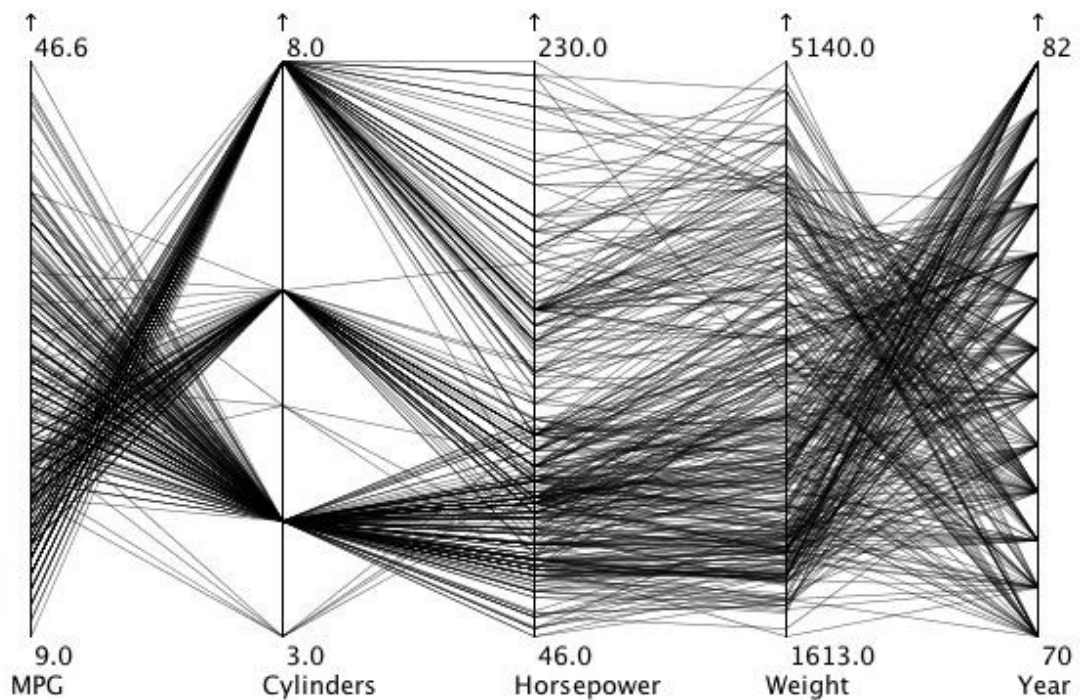
Jacuzzi ultimate goal was to *improve the consumer experience* by addressing the most common challenges of hot tub ownership.

**Figure 1:** This consists of text narrative a simple idea of Jacuzzi to convert their hot tubs to enhance their customer's experience with technology (Jeffery, 2018).

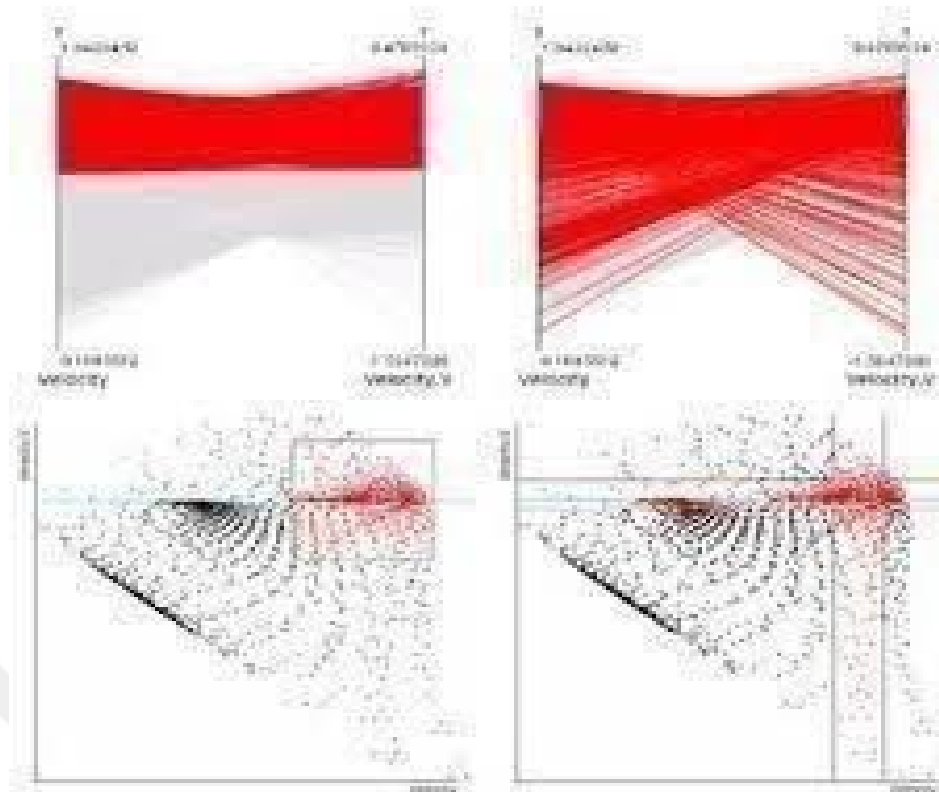


view affects the other representation as well. It is also used in the interactive analysis as well. Given connected views, for example (scatter plot matrix) brushing can aid the identification of correlations across multiple dimensions and are also used for filtering data visually. There are four kinds of brushes;

1. Simple brush via sweeping
2. The composite brush consists of multiple single-axis brushes
3. Angular brush (specify a slope range and highlights the correlations)
4. Smooth brush (degree of interest is defined by distance to brush)



**Figure 4:** Brushing in one dimension in parallel coordinate to highlight car data with cylinders. (Kerren et al., 2008).



**Figure 5:** Comparison of angular brushes and composite. Using parallel coordinates and scatter plots. Source: Hauser, Ledermann and Doleisch (2002).

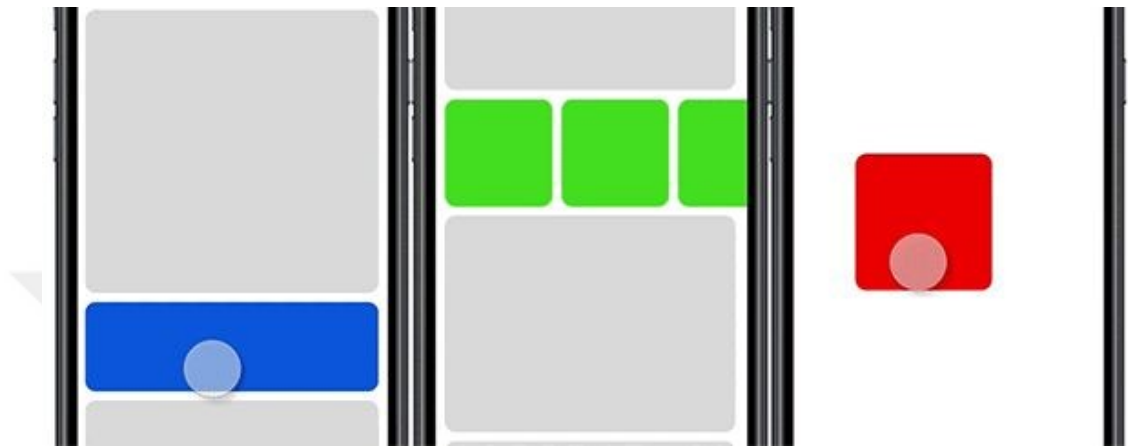
#### 5.1.4 Enhancing Structure and Navigation

A major difference between storytelling and open-ended exploration is that authors can establish a structure to the story and often provide navigation aid. One technique, which is often coordinated with slide show style presentation, is utilised via next/previous buttons. Another technique is scrolling. It is also known as scroll telling. Scrolling means the movement of videos, images, text across the display screen in vertically or horizontally. It is known as the basic method of navigation "Scrolling".

Scrolling up and down is a common task performed by millions of computer users every day (Hinckley et al., 2002:1). Vertical scrolling is the primary pillar of virtually digital interaction you will find. Horizontal scrolling is a typical method to appear inline content without giving up data space.

According to research, scrolling can cause interruption while reading the content. Web developers introduced a new technique called scroll jacking, where scrolling is disturbed on a web page, and this turns into a usability issue as it disrupts navigation issue and confuses readers. Nonetheless, there are advantages of using

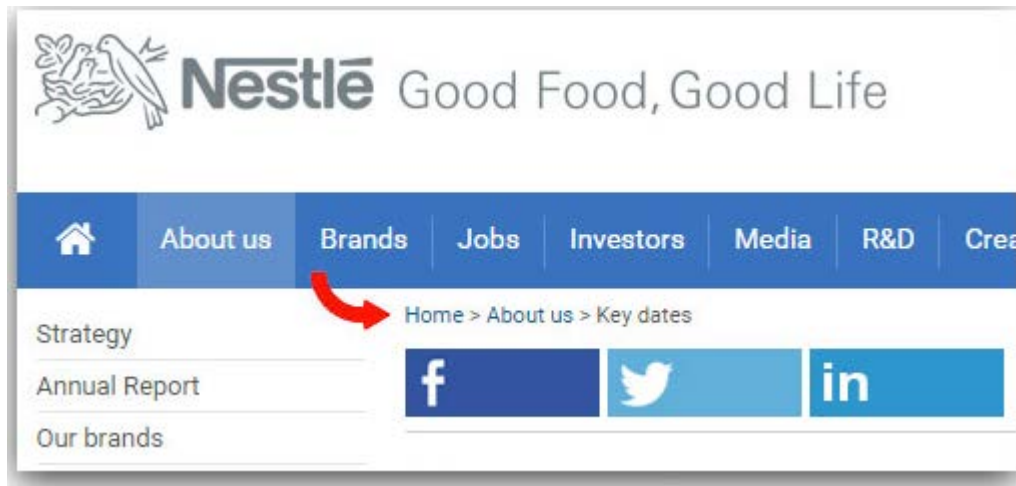
animation text down the page when readers scroll, they read the content faster, with fewer errors. Similarly, direct manipulation and fluid interaction feature the advantage of input, which is fast, reversible and steady. Scrolling linearly limits navigation. Editors from the New York Times have campaigned for flows that utilise scrolling input since readers couldn't reach all their content through tabs, buttons or sliders (McKenna et al., 2017:2).



**Figure 6:** The above examples the ability of the objects scrolls both horizontally and vertically. Source: Virgil (2018).

### 5.1.5 Breadcrumbs

Another technique to build up navigation is called breadcrumb. Bread crumbs are known as hyperlinks and indicate specific website navigation. They usually appear horizontally close to the top of the webpage, gives back the link of each previous page that users navigate to get to the ongoing page. Nielsen Jacob, Co-founder of the Neilson Group, recommended using Breadcrumb navigation since 1995 and said "All breadcrumb do is to make it simple for users to move around the site, expecting its content and structure to bode well. That's an adequate contribution for something that takes up only one line in design (Nielsen, 2007:2).



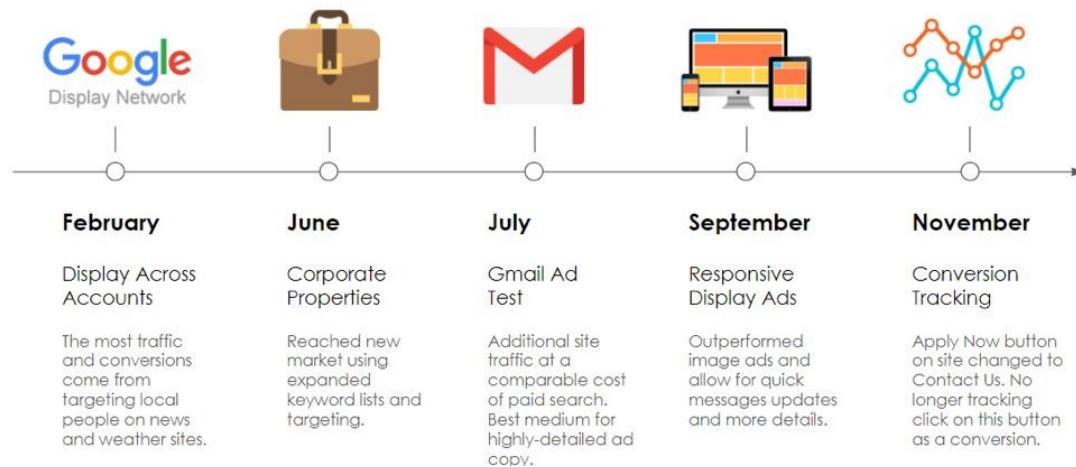
**Figure 7:** A simple navigational aid to help your user experience. Source: Strohmaier (2015)

### 5.1.6 Timeline

Timeline is another technique which acts as a navigational aid for narrative structure. A simple timeline demonstrates the types of the event being characterised, the number of events and the order in which they happened. A more detailed timeline may point out when the event happened in chronological time, to what extent they kept going on, or any of the vents overlapped. Several times, an event is visually encoded utilising graphical marks, such as line or icon. The placement of this mark concerning an axis represents time and other events (Brehmer et al., 2016:2).



## Significant Changes In 2017



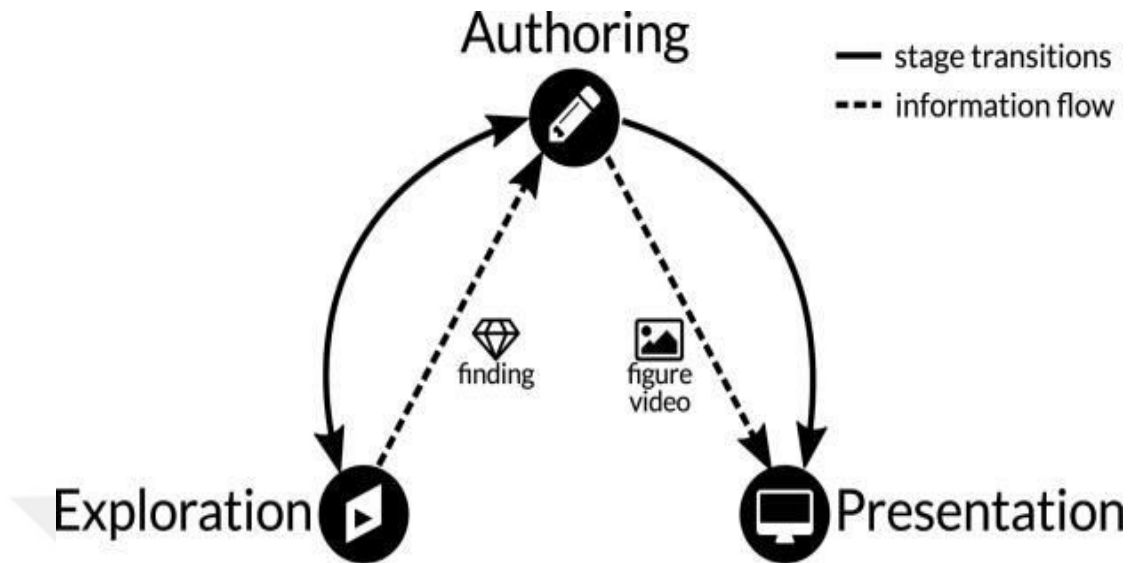
**Figure 8:** The information is presented in a clean, crisp timeline. Source: Maggie and Jamie (2018).

### 5.1.7 Controlled Exploration

A story can belong; however, a couple of key pieces can be presented by annotation. Annotation is an essential part of data visualisation (Ottoni, 2014:1). It can transform dull graphics into a fascinating and insightful way to convey information. However, annotation is often used for explanatory analysis. Including accurate annotation can help to grab the audience's attention. Use keyword, shapes, colour and other visuals to help and get directly to the point (Dataviz, n.d:2). Kosara and Mackinlay emphasised the significance of annotation and featuring visual data-driven storytelling, especially in the context of live presentations. The scope of visual data stories, extend in messages where stories and the role of written explanation or annotation aid the viewer to interpret the message.

In the context of visualisation, annotation means more than the mere addition of textual and graphical components to an existing chart. They can be executed in a way that annotations are aware of the data being visualised. Since data-aware annotations are machine-readable, they can also be utilised to export a subset of data (Andreas Kerren, 2008:124). Machine-readable data (computerised information) is data stored in a machine-readable format, making it easy for mechanised programmes and software to access and process it without mediation. To browsers, web documents consist of human-readable data only (Sikos, n.d:1). A set of annotation for data

information item can show up because of query criteria as well as the selection and brushing interaction.

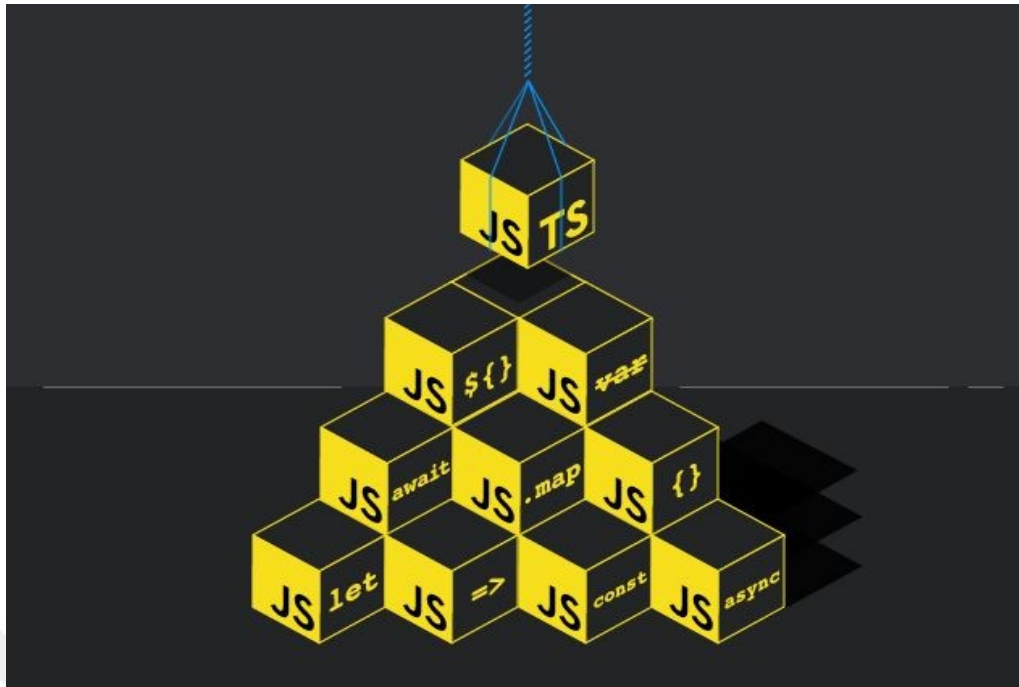


**Figure 9:** Controlled visual exploration to telling a story. Source: Gratzl et al. (2016).

### 5.1.8 Annotation via Programming

The objective of annotation via programming is to limit the number of artefacts that you need to make and maintain by simplifying the development process. Annotation through programming is certainly possible by developing a chart through little control over an annotation. It can be done by using different programming libraries and packages like plot 2 for a statistical programming language, using J3.js a JavaScript library for producing dynamic and interactive visualisation in web browsers. Other methods include by using swoopy drag which helps the developer to place the annotation in 3D graphics and takes a variety of objects to turn them into lines and labels. An annotation can be any form of structural element added to a report or document. Moreover, it can take many forms beyond the text, such as visualisation.

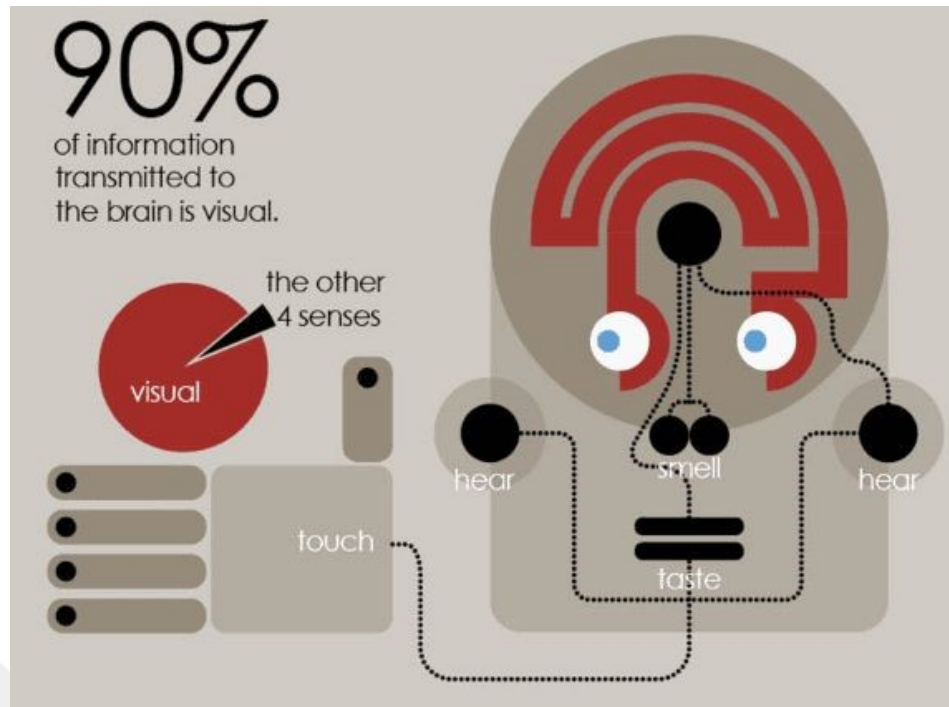




**Figure 10:** Java script annotation. Source: Goldstien (2019).

### 5.1.9 Textual Annotation

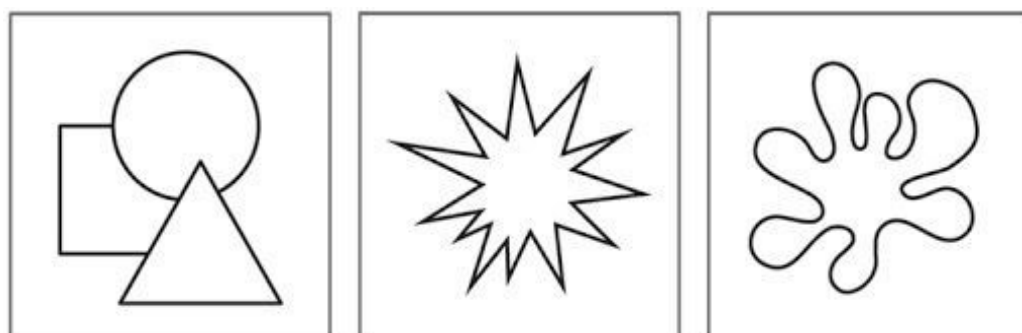
Data sometimes can resemble a world-dried version of the real world, abstracted to the point where it can be difficult to perceive and understand it. It needs some dehydration before it becomes palatable enough to become storytelling material. But to fully breathe back life into the data, you need to include a portion of little explanation to your visualisation. The text gives the essential piece of context layered over data that helps the audience to a substantial understanding of what it truly implies (Hullman & Diakopoulos, 2011:2231). Data-driven text annotation demonstrates values corresponding to the data-bound chart elements, for example, the attribute value pairs of a point in a scatterplot, or the upper or lower bounds of a range along with other attributes (Ren et al., 2017:233).



**Figure 11:** Textual annotation layered with data. Source: Patel (n.d.).

#### 5.1.10 Shape

One can add lines, polylines, rectangle, square, circle, marker, symbol, and polygons in a report or a graph. Polylines are regarded as the constant lines, which consist of one or more than one- line segments. They are custom shapes, which have three or more than three sides. They can be arranged anywhere on the page, and the usage is very diverse and enables you to popup to provide new details, as well as basic shapes and pops up. Some extraordinary shapes appear as boxes you can fill with text as well.



**Figure 12:** Different shapes for annotations. Source: Poovaiah (n.d.)

### 5.1.11 Highlight

According to recent studies, presenting information in the form of charts and tables can make a message more trustworthy and persuasive. Infographics are found to be the most effective medium for information retention. This form of annotation often includes modifying or embellishing the objective to emphasise or diminish its importance. A highlight can be recognised by the visual properties of the target that it alters such as its size or its strokes etc. (Ren, 2017:230-235). Image and symbols added to targets can be recognised by their size, haziness or saturation; their position concerning the objective, incorporating whether there is a background and or a foreground.



**Figure 13:** Highlighted annotation. Source: Cheng (n.d.).

### 5.1.12 Infographics

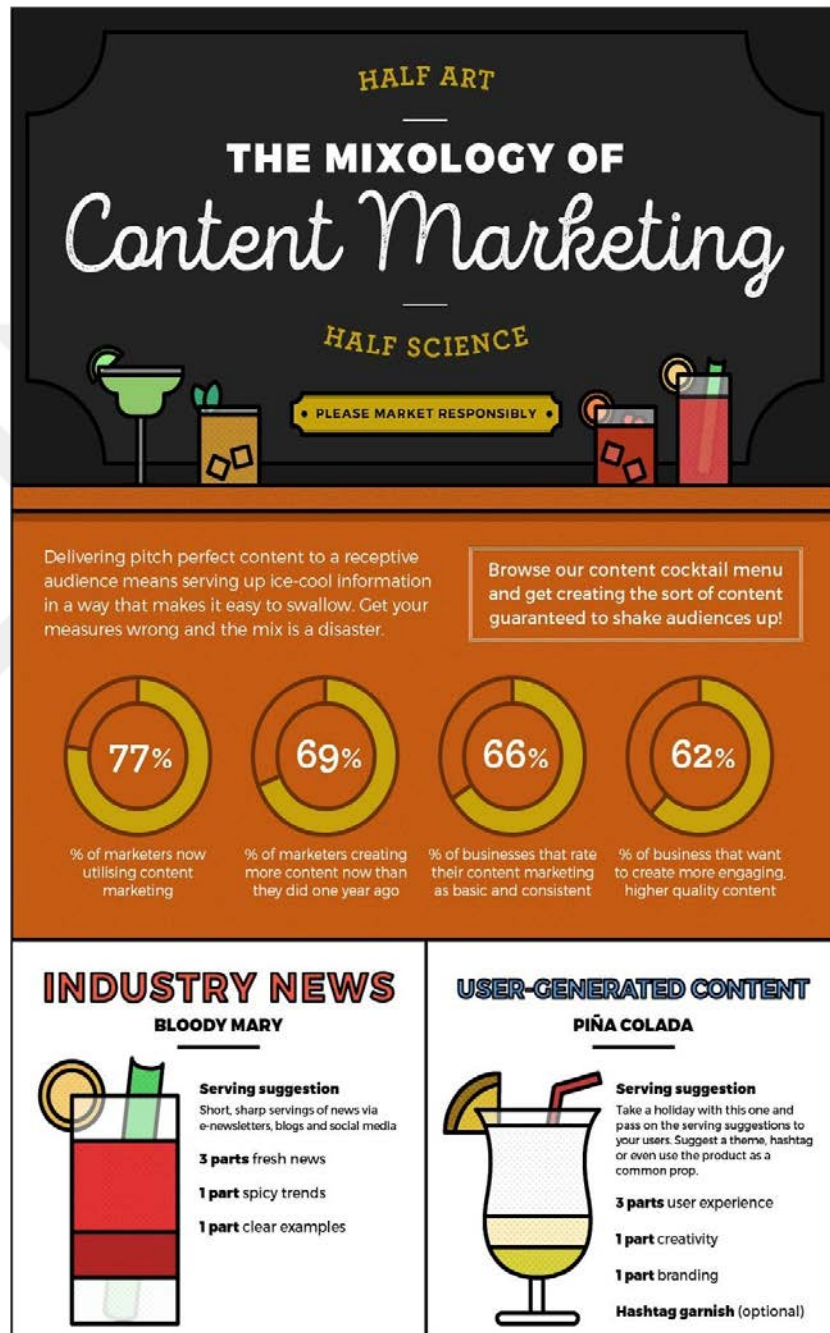
If you have examined a newspaper, blog or flipped through a magazine or used social media, you have potentially come across infographics (Balkac & Ergun, 2018:2514). These are self-contained pictorials that uncover the essence of the story or a notion at a glance. Previous research has described infographics as “a visualisation of data or ideas that attempt to convey complex records to an audience in a manner that can be quickly consumed and be comprehended easily” (Balkac & Ergun., 2018:2514). As far as its history is concerned, infographics have existed for 32,000 years. Cave artwork can essentially be called first infographics representing animals and different resources in the surrounding area. As the visual portrayal of data, they are infographics. Statistical graphics trendsetter William Playfair in 1786, published the commercial and political map book, which displayed many bar charts, line graph,

and histogram, representing a monetary framework system of England. He further followed this up with a pie chart and the first region chart. Florence Nightingale in 1857 used information graphics chart, primarily the coxcomb, a mixture of stack bar or pie chart, to alternate history and persuaded Queen Victoria, to enhance the condition of military hospitals. Her chart demonstrated the number and reasons for death during each month of the Crimean War (Visually, n.d.:1-4). Harry Beck, in 1933 took made a major stride in the history of infographics. He created the first map of London Tube, showing only lines to illustrate public transit routes and stations. It was an important development because it moved the visual diagram into everyday life (Visually, n.d.:5-7).

Infographics are essential because they help to develop and communicate ideas in an easy format, so, it's an important tool for visualisation. We are living in an era where time is of higher cost and attention is turning into a valuable commodity. The audience is looking for pieces of information; infographics present information in a simple format. Infographics are used in different fields such as government, corporate, NGO community, medicine, engineering, research, development, etc. (Kienzler, 2018). By representing information in an invigorating manner, we can grab the attention and interest of the audience. Organisations use infographics to communicate ideas, knowledge. Jason Falls, CEO of LLC, said, "Infographics usually have low hindrances with regards to sharing." With infographics, we are not asking people to spend ten minutes reading 800 words of text. If you have the main point of your message summed up with alluring infographics, the audience will understand it quickly. He further said, if infographics communicate something useful, people are more likely to share it with their network (Hilligoss & Howard, 1999:133).

The best infographics paint an image with information, i.e., a map that demonstrates a global distribution of dislodged people, showing where humanitarian aid is required. A good infographic is based on solid research and displays information clearly and concisely. However, they come in various forms (Icons 8, 2020:6). The classification is based on the kind of objects used and the flow of information. This research study will discuss a few here. Informational graphics are recognised by its use of the above-average text when contrasted with a different form of infographics. The graphics can be improved by symbols, shapes, hues, and other visual components. Timeline infographics represent events or activities in time sequence order. They are

used to show product advancement, historical events, or ideas. The format can be horizontal, vertical, and winding (Icons 8, 2020:11). Chart infographics are the main point of information visualisation. Colour, shapes, and icons can be added for explanation. Chart infographics work best when performing an essential correlation of things (Icons 8, 2020:12).



**Figure 14:** Infographics conveying information with pictorials in a simple manner. Source: Lile (2017).

### 5.1.13 Dashboard

The visualisation dashboard is pervasive. Dashboards are created and utilised by every industry in decision making backed data-driven storytelling. They are combined and available in various contexts. Dashboards are leading, democratising, and expanding as the increase of their use, their context exceeding simple monitoring and single screen reports. Wexler offered, an extensive definition, i.e. "A visual showcase of information is used to monitor screen condition and to aid understanding," which can incorporate infographic elements of narrative visualisation. The dashboard concept has developed from a single view reporting screen, to incorporate interfaces with numerous views and purposes, including communication, learning, and motivation (Sarikaya et al., 2018:682-686). As characterised by Clark, Abela and Ambler (2006) and O'Sullivan and Abela (2007), the main component of a dashboard contains a summary, integration of key performance metrics with basic drivers to communicate performance throughout the organisation.

A dashboard can be categorised as a relatively small collection of interconnected key performance metrics and underlying performance drivers that present both short and long interest to see in like manner through the organisation (Pauwels et al., 2009:177). Most organisations understand that the old objective of stacking all the data into a single storage space is a losing game- new data resources spring up regularly- business needs the data now not in six months or a year. The appropriate response is to mix or combine data from multiple sources by joining different data sets on a common field. You can get a single view of things like execution or track of objectives at every step of your process. Unilever, a global consumer goods organisation, uses data dashboards to study more about consumer and customer trends on a granular level. From long-established names like Dove, Sunlight, Nivea, Walls, Unilever's range of consumer products is as diverse as its worldwide consumer base (Cotgreave, n.d.:5).

That makes it a variety of different data sets to filter. Unilever integrates all data to understand why individuals are visiting the shop, filling their baskets with Unilever products, and assessing what is likely good or trends based on those customers. Unilever dashboards integrate data to bridge the gaps between global and local outlook (Cotgreave. n.d.:5).

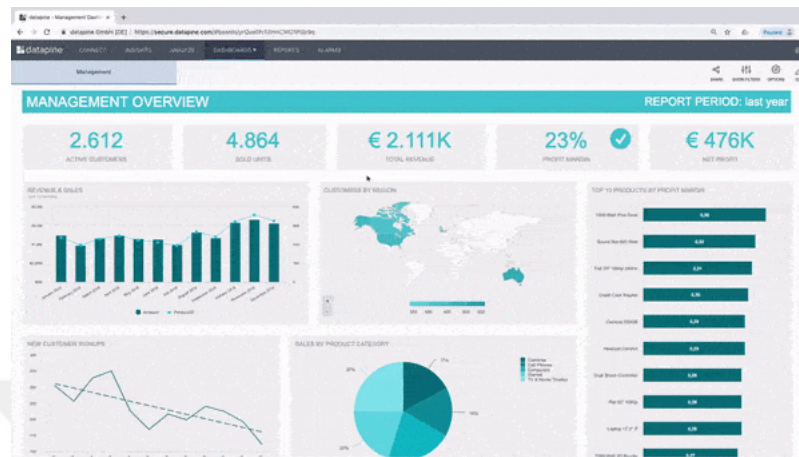
Dashboards are simple and fast to read. Number based tables and spreadsheets are usually the opposite. As described above, when data is visually presented on a dashboard, the process of understanding is significantly faster than the human brain process number, visualisation, or an image in a single piece of information. (Cotgreave, n.d:8).

The Dashboard's main goal is to convey critical data to your audience in a way they can understand, moreover deliver when and where information is needed. A good dashboard structure requires a profound comprehension of how the framework works. The structure of the dashboard is the chance to define the right approach to look at a problem or business. How you decide to layout your information shapes how your audience is going to comprehend the big picture or how smaller pieces fit together. To select the right dashboard, we can use the dashboard selection method described in Staron, Nielson and Meding (2015).

1. **Type of Dashboard** - Describing what kind of visualisation is required. Various dashboards are used as reports, where stakeholders input the data and require the adaptability of the format- the alternative option named in this report. In contrast, some require predefined visualisation with a similar structure for every update.
2. **Data acquisition** -Characterising how the information is input into the tool. Generally, the stakeholders can enter data into a tool, for example, evaluating the option, is named manual or they can have the information, being imported from other systems the alternative is named automatic.
3. **Stakeholder** -Defining the type of stakeholder for the dashboard. The dashboards which are utilised are known as information radiators frequently have an entire group as a stakeholder, for example, a project team.
4. **Delivery** -Describing how the information is given to the stakeholder. The data can be conveyed to stakeholders through email or MS sidebar gadget- the alternative is delivered, or can also be fetched.
5. **Update** -Describing how the data is updated. One option is to update the data periodically, for instance, each night with the advantage of data being synchronised but with the disadvantage that is not up to date. The other alternative is the continuous update, which has the opposite effect on the timeline synchronisation.



6. **Aim** -Characterising what kind of aim the dashboard should fulfil. One of the options is to utilise the dashboard information radiator to spread information to a broad audience. Another alternative is to design the dashboard for a particular kind of decision in mind, for example, release readiness.



**Figure 15:** Collection of interconnected information on the dashboard.  
Source: Durcevic (2019)

## 5.2 Social Media

Advancement in technology and communication has resulted in tremendous growth and popularity of social media networking sites. Social media has changed how people communicate, where they communicate, and with whom they communicate. Social media refers to the behaviour of people gathering together to connect, interact, create and share content online, which is created by the users themselves (Esfahani & Johnson, 2018:47). There was a time when researchers and organisations were doubtful of social media survival. Still, today social media has changed the way people communicate, consume and collaborate (Hays, Page & Buhalis, 2013:2). Social media has become a vital tool for various types of interactions that are equipped with the ability to share information, mould opinion, connect individuals and mass communities, for active participation (Bala, 2014:2). According to a research by Hootsuite, different business organisations use social media: 90% for brand building, 71% for community engagement, 61% for lead conversion and sales, 50% for market insights and 47% for client support. It proves that social media is necessary for an organisation to stay competitive in the market, for delivering value-added customer services, attract job applicants, identify crisis and to manage communication (Hootsuite, 2018:4).



Moreover, social media has become an essential tool for marketing, customer service, management and interaction purposes (Esfahani & Johnson, 2018:47). Following are the ways outlined through which social media networking sites has changed the ways organisations market themselves and societies communicate.

### **5.2.1 Brands Speak Directly**

Organisations are no longer dependent on traditional media to disperse their message. Brands are building Facebook, Instagram pages, CEOs are tweeting, and organisations via LinkedIn are now interacting with their internal and external stakeholders. Social media also gives higher control to the organisation to ensure the content they are marketing is accurate. The main aim is to make a dry topic, or product and service interesting and fun by tying it to other topics through social media posts.

### **5.2.2 Rumours Messages in Social Media**

Social networks like Twitter, Facebook, Instagram, LinkedIn, and WhatsApp provide an online voice to individuals. They can make their thoughts, opinion, and ideas viral via an online community. Since rumours are prevalent in a modern society dominated by Facebook, Instagram and LinkedIn, it has influenced values and behaviour towards others and the way consumers perceive the world. However, the arrival of social media has also offered opportunities to rivals to transform the message into something negative, creating negative rumours to a wider community of users. As a result, the organisation loses its consumers to lies and unverified stories, having adverse effects on both money as well as reputation (Pang, 2013:312). In Britain, two green activists were sued by McDonald's for criticism made in leaflets on street corners. The leaflets claimed that McDonald's exploited children and were cruel to animals, destroyed rain forests, and contributed to the hunger of the Third World. McDonald's won the case but lost the battle against PR (BBC, 2005: 5).

### **5.2.3 Viral Messages**

Facebook has 2.4 billion users, making it the world largest social media platform. There are also more than one billion users on other social media platforms including, Twitter and WhatsApp. Positive messages also spread quickly, like rumours. Social media helps spread the news among consumers. For example, a famous video on YouTube can go viral and be shared, retweeted or be posted on different social media platforms in a span of a couple of minutes. Adidas, in their commercial, asked participants in the Boston Marathon event to share their experience,

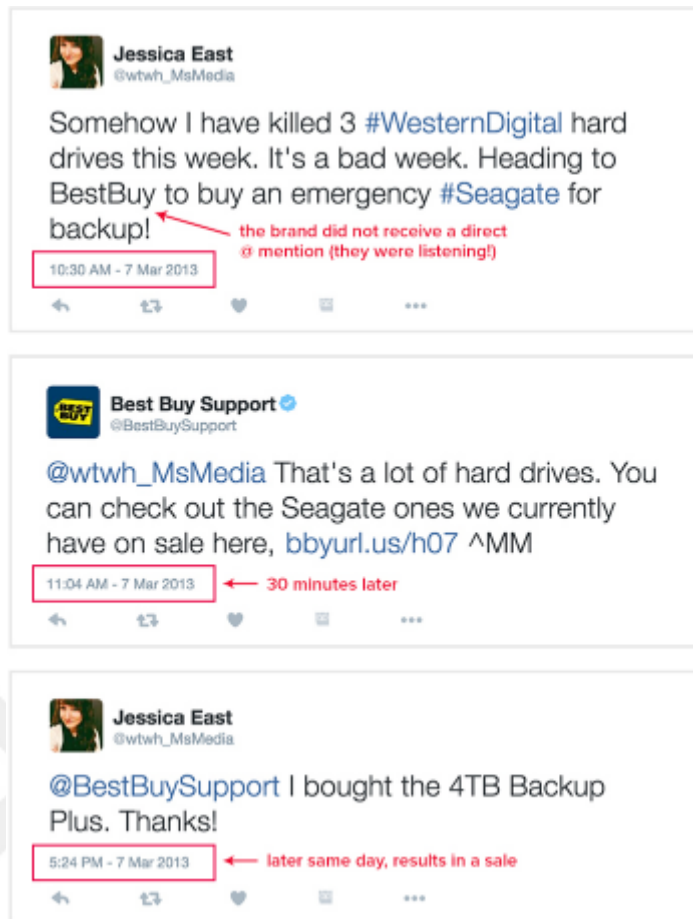
pictures, and videos. It resulted in user-generated content capturing the activity with a distinctive and immersive feel. The commercial, of course, featured videos that exhibited new running appeal from the brand with a personal and emotional tone. In the first two days, it received over 100,000 views.

#### **5.2.4 Personal connection with media**

Social media makes it easier for the organisation to build long term relation and effective relationship with journalists as you can connect to them on a personal level rather than just faceless email or random phone call.

#### **5.2.5 Customer Service**

There was a time when customer support activities took place through telephone and emails; however, with the emergence of social media; support has created an "always-on expectation". It means responding to complaints, reviews, and inquiries as quickly as possible is the best social media customer service (Gregory, 2019:4). Additionally, it can be seen in the screenshot below, Best Buy, did not get a direct mention on Twitter by the customer. They probably saw their brand name mentioned on a post with the tool for monitoring social media customer service available on social media networking sites. A representative of social media customer service of Best Buy reacted within an hour with a supportive message suggesting a product-specific pain point and by even suggesting items on sale.



**Figure 16:** Best Buy Customer Service Response. Source: Gregory (2019)

### 5.3 LinkedIn

LinkedIn is a social media platform which has the largest professional network of 675 million. It plays an important role in enhancing business network. Firstly, it is a platform where employers or employees can interact with each other directly. Different corporate organisations use LinkedIn for corporate communication and marketing goals, interaction with customers and brands. Similarly, LinkedIn posts deep and truthful stories that resonate, affect and motivate audience via videos, audios, articles, posts, images, etc. It involves a deep understanding of the audience and their feelings which help to construct a story that appeals profoundly on the human level. Furthermore, it is a platform where business can interact with each other and also helps to create brand awareness (Garg, 2017:5-7).

Here are the following reasons why it is one of the most effective social media.

1. It is not an entertaining platform, but it is a professional social media network.

2. Professionals and students use this forum to choose and grow their career path.
3. It is a powerful tool that helps a recruiter to select and find the right candidate.
4. It provides a great platform for businesses.

In the same manner, it is important to understand the role of LinkedIn in corporate communication. Following outlines, the few key functions of LinkedIn when it comes to corporate communication:

- It helps to increase awareness of the enterprise's existence to reach the target audience, for example, providing company's profile to the user who recognises it in the post or an article regarding the company's product.
- It is useful in building an expert image, or reinforcing the company's image by presenting, for example, its selected experts' content and PR activity, and further promoting the results of its industry research.
- It also reflects on the company's marketing efforts and achievements by showing the internet community about the reach of a particular event or its event organisations, where LinkedIn can also help participants' recruitment.
- LinkedIn further helps to improve the traffic on the company's website. It is done by creating interest in the user's mind through the periodical publication of the newsletter or making the recipient interested with an engaging topic discussed on the company's blog.
- Additionally, it helps users to grow their career in terms of company promotions by informing them of special actions undertaken by the company following the scenario of previously chosen promotion.

The LinkedIn functions in corporate communication allow concluding that although it is not the leader of the social media platform when it comes to marketing products and services, however, in a corporate environment it undoubtedly supports the activities of the corporate communication sector to and from employer and employees. The LinkedIn precedence over other social media networking sites is based on a well-defined target audience, which includes business partners and employees and a skilful international labour market (Lipińska, 2018:24).

Based on the above reasons, it can be stated that LinkedIn is a useful platform to study digital storytelling and corporate communication.

## **CHAPTER 6: UNDERSTANDING THE METHODOLOGY**

This chapter explains the methodology, sample, data collections and key findings, with tables and conclusion of the research.

### **6.1 Method**

For this study, quantitative content analysis was chosen as a method for identifying the data-driven narrative visualisation techniques used in the videos of LinkedIn's official account on LinkedIn. An inclusive definition of quantitative research analysis is offered by Berelson (1952:18) as cited by Du Plooy (1995:152) and Riffe, Lacy, Fico and Watson (2019:24) is "The research approach for systematic, objective and quantitative description of the manifest content of the communication." Quantitative research is an empirical and statistical method of forecasting outcomes and conduct study. Its main objective is to interpret the data through numerical variables and statistical data. Similarly, with easy access to data, quantitative research is being used in several fields. It is one of the primary reasons why quantitative content analysis is preferred in the current research.

After the intensive literature review, Charles D Stolper and his Co-authors 2016 framework (Stolper et al., 2016) were taken to set categories that were used in the content analysis of this research which fits my research work because it includes a spectrum of narrative visualisation techniques. Besides, I also used Krippendorff Alpha to measure intercoder reliability and descriptive analysis with frequencies and percentages.

### **6.2 Sample**

In the scope of this research, different research articles and thesis were reviewed. In the database, different keywords were used narrative visualisation, data visualisation, data-driven storytelling, digital storytelling, narrative visualisation and, LinkedIn, and storytelling. As for the analysis, I chose LinkedIn since it is no longer just a digital CV platform, but it also tells us the main brand story of an organisation and also about professionals. Moreover, LinkedIn is a rich platform that includes a wide variety of corporate stories, which is useful for my research scope. The editor in chief of LinkedIn once said "Storytelling without data is fluff. Data with storytelling is unforgettable" (Rynne, 2018: 5). LinkedIn was launched in 2017, and within one year, it generated more than 300 million impressions and earns an average of 3% as

the engagement of text posts. Since then, the video content is immensely popular and has gained a reputation in the social platform and different business organisations that are using it as their corporate strategy.

In this paper, I identified the basic narrative techniques used in LinkedIn videos and found out the engagements of LinkedIn videos by using quantitative content analysis. For choosing the most engaging videos, three factors were considered:

1. Views
2. Likes
3. Prevalence.

After investigating, I discovered that almost all videos, consisted of corporate social responsibility initiatives and to bring attention towards good causes, in the same manner, some videos were created to describe the latest skills in demand or how to do organisational communication. These videos are a combination of music, audio, and most importantly, human elements which is the basic necessity of storytelling. Furthermore, these videos included descriptive images, explanatory infographics, and even expressive body language. I chose to analyse the first 60 videos on the LinkedIn page while avoiding the talks of different speakers (see appendices for videos' captions and screenshots). I investigated 11 narrative visualisation techniques in the LinkedIn video section. Calculated the number of videos and techniques present on each video for one-month January to February 2020, and also calculated the number of views, likes, and comments.

### **6.3 Data Collection**

As this research field is still new and developing and limited theoretical framework and practices were available, the main aim of this study was to develop a framework of common techniques used in narrative visualisation in corporate communication. First, I found out the main logic behind strategic communication visual and dynamics study of related concepts in the adjoining field of research. Secondly, to separate narrative visualisation from data visualisation, digital stories were further explored. Along with that, the main focus was on narrative visualisation and its common techniques in corporate communication. Based on the theoretical material of Charles D. Stolper research and relevant online examples of LinkedIn stories conclusion was found. In this way, the main purpose was to provide new insight

for common narrative visualisation techniques and to explain how corporate communication messages are being implemented through narrative visualisation techniques. In Table 1. the codebook of narrative visualisation techniques is seen.

**Table 1:** Techniques and Characteristics

<b>Techniques</b>	<b>Characteristics</b>
<b>Textual Narrative</b>	The literary tale is a difficult or troublesome story, and the remedy is being found. The textual narrative is any form of writing used to explain the story and to interpret it. Introducing graphics, it brings out important points. It can be fiction, non-fiction, essay, post, blog, etc. in any form.
<b>Audio Narrative</b>	The audio narrative intends to connect a soundtrack to describe major visual details. It is used to guide the listener, via the concise presentation, objective description of on-scene characters' body language, costumes usually slipped in between dialogues or songs.
<b>Annotation</b>	Annotation is used to add notes or more information about the topic. It is used in a variety of ways. It helps the reader to engage with a text or to add context to provide further clarification.
<b>Brushing</b>	Brushing consists of a selection of a subset of the displayed data interactively by either dragging the mouse over the data of interest or using bounding shape to isolate the subset.
<b>Linking</b>	Linking often displays data in pairs or helps to understand the graphic structure. It provides the view of the subject or set a subject and their properties. It can also consist of multiple story elements includes text and visual or charts.
<b>Navigation</b>	The navigational technique refers to any craft or subject that requires the position and direction. It can establish a structure of the story and provide a navigation aid through slide or presentation, etc.
<b>Scrolling</b>	The scrolling is the sliding motion of images, video, text, either vertically or horizontally across the display screen. It can be done without or with the user interface as well.
<b>Breadcrumbs</b>	Breadcrumbs help the viewer to visualise the content which has been structured. It also helps to navigate back to previous webpages and can identify the location within the series of webpages.

<b>Timeline</b>	It is a graphical way of displaying a timeline of chronologically organised events. Similarly, a certain method of data visualisation can be paired with a timeline to demonstrate how data changes over time.
<b>Infographics</b>	Infographics simply present information in graphical form. Infographics consist of striking images, charts, and a minimal text that makes it easy to understand the story or content.
<b>Dashboard</b>	A dashboard is a tool that is utilised for data management. It coordinates and presents information in a way that is simple to read. It delivers information metrics visually to help the user to understand the complicated relationships in their data.

To start coding, I calculated the Krippendorff Alpha number to evaluate intercoder reliability. Krippendorff analysis is a statistical measure of agreement between several data making process replication. It originated in content analysis projects in the 1970s where textual and visual units of analysis were classified or written according to written instructions by qualified coders. Alpha Krippendorff generalises many established statistics on the negotiation. It applies to collect any numbers of observers, coder, judges, not just two, embraces any number of categories or values can handle the metrics of binary, proportional, ordinal, interval and ratio measurement levels. It accepts incomplete or missing data, adapts itself to small sample sizes and extends not only to the coding of the predefined analytical unit but also to the unitisation or segmentation of a spectrum into units of different lengths (Krippendorff, 2011).

While coding, I referred to the presence of technique as (1) and the absence as (0). I did the pilot coding with a freelancer who is a student of the Computer science department from another university and is also an English teacher online. Pilot coding inter reliability was (1) hence it proved the coders were in perfect agreement. After doing the first pilot coding, I used Excel to assemble the collected data and then Krippendorff alpha with SPSS to find if the data was inter-reliable.

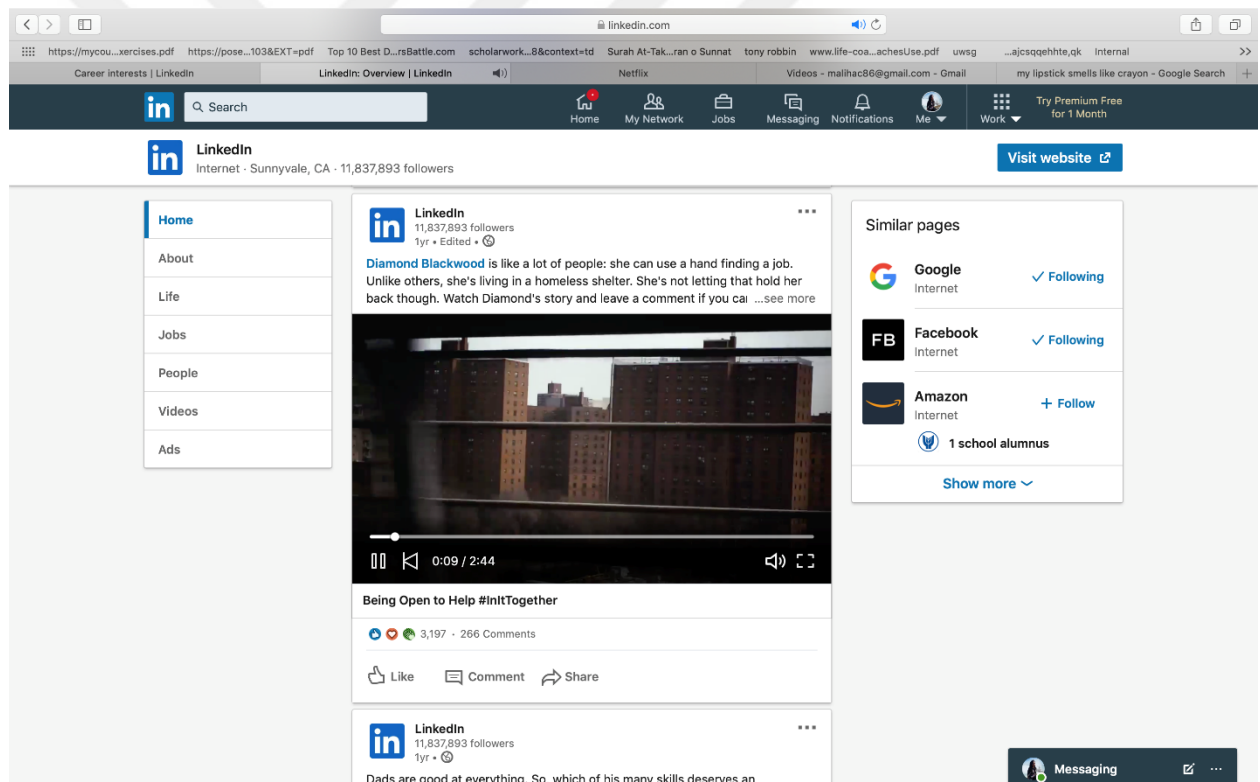
The result shows that intercoder reliability was high (Alpha=0.89). It means that the process of coding instructions was clear. Additionally, the definition of categories may be explicit and seem applicable to what they are supposed to describe. Similarly, it also proves that both coders were equally attentive to important details and were purely objective.



## 6.4 Findings

I distinguished narrative visualisation techniques from the research paper by Stolper et al. (2016). The research paper consists of several data-driven storytelling techniques that are often used by a different business. This paper also discusses the concept of narrative visualisation done by Segel and Heer (2010). Though, my interest was focused on recognising the techniques in the context of four categories: communicating a narrative, explaining linking separated elements, enhancing structure, navigation, and provide a controlled exploration (Stolper et al., 2016).

Most of the stories started with current topics. All the stories emphasise an emotional level, especially, Diamond Blackwood story regardless of living in a homeless shelter and being a single mother living in Queens that did not hold her back from fulfilling her dream.



**Figure 17:** Diamond Blackwood's Story. Source: <https://urlzs.com/iwGYK>

She hustled between school and work and achieved her goal by graduating and finding a better job. Furthermore, another video was also considered where LinkedIn talks about their employees belonging in the office, and, harassment outside of the

office. They even gave awareness on how to report unprofessional behaviour. Overall, the sample stories with data talk about challenges created by change on a personal level that plays to emotions. I performed a descriptive analysis to get an in-depth understanding of variables. I found out that the annotation technique was the most used techniques with a percentage of (21.1%) and followed by infographic (16.29%) and linking (14.4%) (See Table 2).

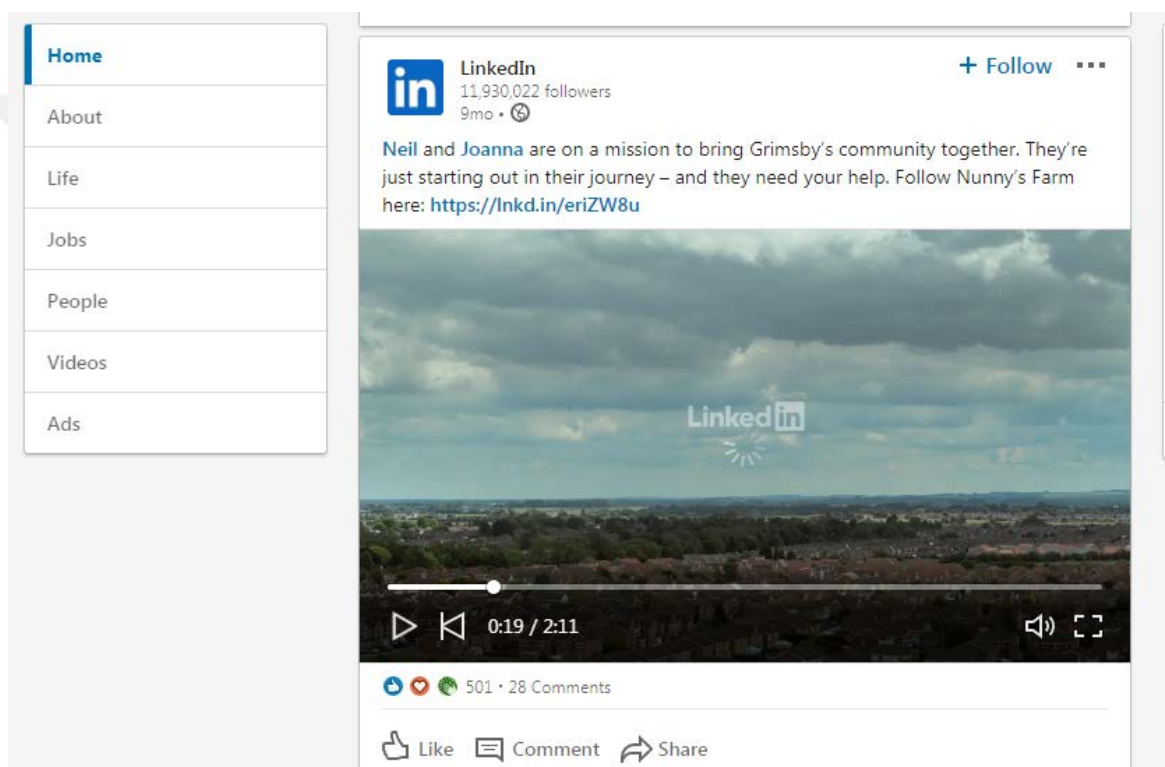
**Table 2:** Descriptive analysis.

<b>Technique Name</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Textual Narrative</b>	25	9.29%
<b>Audio narrative</b>	23	8.51%
<b>Annotation</b>	57	21.1%
<b>Brushing</b>	1	0.37%
<b>Linking</b>	39	14.4%
<b>Navigation</b>	8	2.96%
<b>Scrolling</b>	35	12.96%
<b>Breadcrumbs</b>	36	13.3%
<b>Timeline</b>	1	0.37%
<b>Dashboard</b>	1	0.37%
<b>Infographics</b>	44	16.29%

Furthermore, the videos consisted of the explanatory approach resonating with the challenges faced by society. Furthermore, I explained a few stories of the videos of LinkedIn below;

### 6.4.1 Shift in the Story

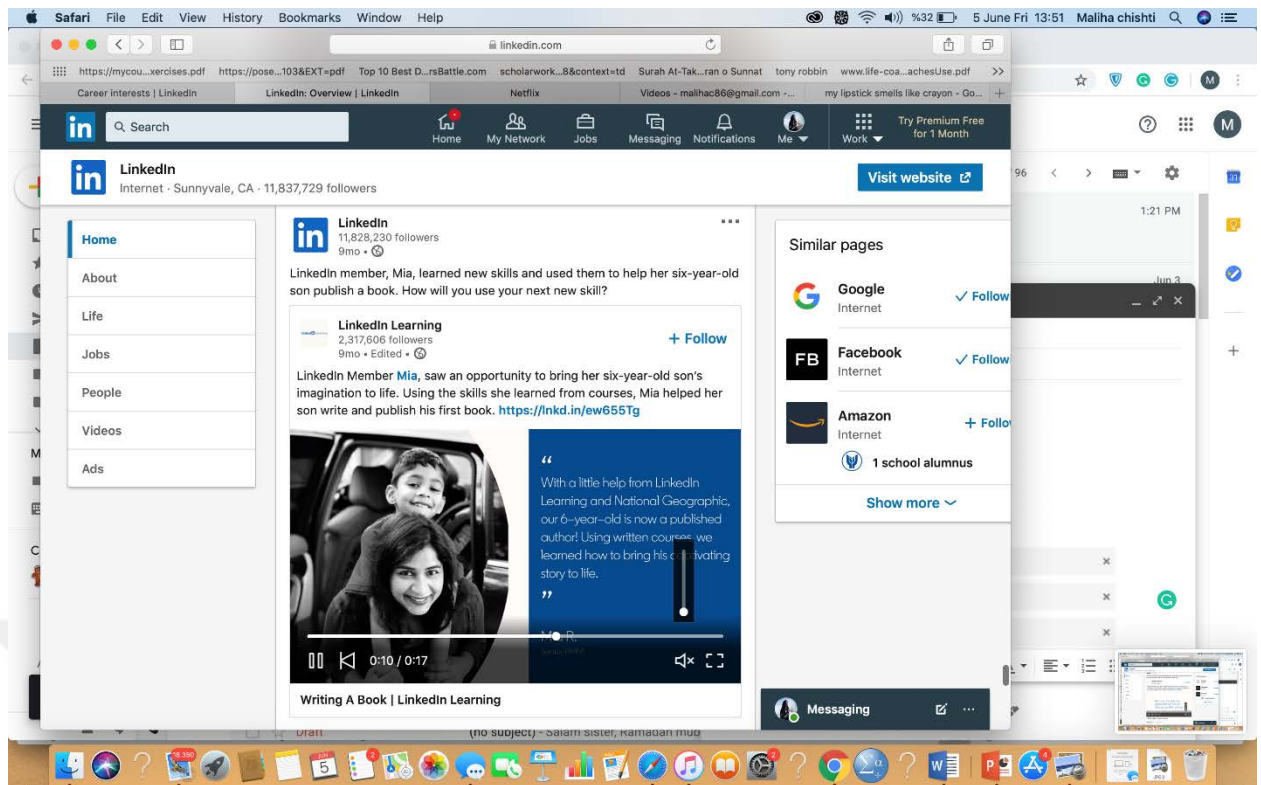
Every good story has a turning point that usually hinges on the hero's redefining the problem. For example, Neil and Joana are on a mission to bring the Grimsby community together to help animals and ended up getting permission for Nunny's farm and winning people's hearts. The narrative was based on the tone of leadership, of the transformation of thought of something worth paying to because rewiring the old opinions and behaviour modes. Therefore, it is imperative to flip the scenario correctly into your narrative, looking for emerging trends, topics, and themes in the data that suggest a new organic farming perspective.



**Figure 18:** Grimsby's Community. Source: <https://urlzs.com/cyr7Z>

### 6.4.2. Enter the Hero

The real hero of the story emerges, and it can be anyone like in one of the videos of the sample a mother named Mia learned a new skill and helped her six-year-old child to publish a book.



**Figure 19** :Writing and publishing the first book. Source: <https://urlzs.com/4zF8a>

The hero moment is vital to get the story right. The overall videos used explanatory analytics to point into inspiration and high points as well as low points.

### 6.5 TOP MOST ENGAGED VIDEOS

To find the most engaging videos, I analysed all the videos and divided them, but the number of views was not considered as some of them were not available. Therefore, these following tables are representing the top five most engaging videos based on their likes and comments counts. The most used techniques in videos are annotations, infographics and linking. Firstly, the annotations technique has played an influential role in these stories. It helped the presenter to emphasise and explain the main core messages and specific data. Secondly, in these videos, infographics have shown information, knowledge and data effectively through graphical visuals. Infographics have fulfilled the purpose of visualising a story, a process and idea clearly and defined the complicated information with an eye-catching visual. Third, linking has been used to connect multiple views of the same data or to float over the data point to illustrate relevant data points.

**Table 3:** The most engaged 5 Videos.

<b>No of videos</b>	<b>Techniques used</b>	<b>Number of views</b>	<b>Number of comments</b>	<b>Number of likes</b>
<b>3</b>	Annotations and Infographics	60535	73	2407
<b>10</b>	Annotation and Infographics	132747	224	5252
<b>22</b>	Infographics and Annotation	104926	598	1736
<b>45</b>	Annotation, Infographics, linking, Audio narrative, and breadcrumbs	1027	269	3214
<b>57</b>	Annotation, Infographics and linking.	Not available	87	2666

## CHAPTER 7: CONCLUSION

Data-driven storytelling is still constantly, evolving, authors and designers are still developing new ways to support narrative visualisation. In this thesis, I tried to concentrate on visualisation data-driven storytelling.

Firstly, I conducted the narrative visualisation techniques analysis I found out explicitly the common techniques used in data-driven storytelling. The techniques identified, help to engage the audience, for example, annotation is the most used technique, and important part of data visualisation it transforms the dull information into a fascinating insight. It is also used in the exploration of data visualisation. Similarly, narrative visualisation technique is used to provide cues for readers using annotation, textual or audio narrative. Linking narrative elements contributes manners to collect elements that link the story through colour or highlighting. Furthermore, these techniques help the author to format a structure of the story and provide navigational aid. In the same manner, breadcrumbs grant reader direct access to the corresponding location in the story.

Apart from this, I also learned that these techniques do not exist in seclusion; most stories used at least 4.48% technique in a video. The top 5 engaging videos with the highest numbers of likes and comments which described some changes in technology, business and culture that people care about and similarly social media videos evolve trends but create tropical and popular stories. All these techniques require considerable skills and strong data visualisation literacy. The research community should make more efforts to support storytelling medium alongside improving our understanding of techniques and provide better tools and support for creating data-driven storytelling.

Similarly, the result of the study demonstrated that narrative visualisation techniques are beneficial for organisations because they produce visual and data-led campaigns. Firstly, the visual aspect is important for an organisation to display structural relationships between places, moments, and to present complex information easily. Since the images do not have the explicit interpretation, the best results are achieved through the narrative visualisation techniques which make the story more appealing, interactive and improve the message likelihood and recall. The most common techniques, used in data-driven stories of LinkedIn are, annotation,

infographics and linking. Annotation describes what happens along the impact journey at a point in time. A descriptive and articulate annotation that explains a significant milestone in the program and alongside the result of data is the annotation required to tell the impact of the story. Annotation is the method of marking the available data into various formats such as text, video or images. For supervised machine learning, labelled data sets are necessary, so that computer can understand the pattern easily and clearly.

Along with that, I think it is equally important in corporate communication to choose the right tool for annotating data, that can be classified according to customer's needs. As the authors Ren et al. (2017:230) in their research work mentioned, annotation is used in news media and are aimed at a broader audience and produced professionally.

Similarly, in my research, I found that specific annotations are equally made for a specific target audience professionally in corporate communication. Secondly, infographics are used in mainstream media to increase the understanding of the reader. Infographics use graphic elements, text, embellishments, designed to help readers or viewers to understand the story quickly. Understanding how these elements can be incorporated will help to create a better design for infographics. The incorporation of these elements, text and embellishments do not reduce the accuracy of the data but increase the memorability which I agree with as well because of infographics I can understand the data accurately and also it is easier to recall. Thirdly, Linking is another technique which connects data set together to overcome the shortcoming of a single technique. The top LinkedIn stories consist of at least 3 or 4 techniques linked together to attract and engage the audience. Hence it proved stories are more reliable when narrative visualisation techniques are used in corporate communication so that complex message can be communicated effectively in an innovating and inspiring manner. Furthermore, data-driven stories are entertaining, inspiring, and educative and can be used in marketing content for organisations. Therefore, I think these narrative visualisation techniques should be used strategically and to convey the story because it leaves a long-lasting effect on audiences. As the author Proskurina, (2018:21) in her research work stated that it is becoming increasingly difficult for organisations to meet their target market with the conventional business communication methods, due to the shift in media culture which has intensified the competition from globalisation; the

conclusion of the current study agrees with Proskurina, (2018:21). The research work of the author further explains that seeking audience attention and engagement is making all professionals in brand communication and corporate communication shifting towards visual content because it improves the memorability of the content according to the results. Proskurina's (2018:21) study further specifically focused on narrative visualisation single technique infographics, but according to the current research work, not just infographics but annotation and other techniques should be used strategically in corporate communication by the organisation.

Summing up, the study indicates that narrative visualisation techniques have the potential to be used more widely in corporate communication and by different sectors, and it needs to be more theoretically developed.





### **7.1. Direction for Further Research**

This paper had a conceptual nature since there was no problem with the role of narrative visualisation in corporate communication. Thus, the subject is still new and underdeveloped. There is an ample amount of opportunities for researchers to use various methodological approach. From the corporate communication perspective, I considered narrative visualisation and used secondary data to demonstrate the importance of narrative visualisation. However, the research can be done from the perspective of the client, which can be beneficial for researchers and practitioners. It can shed light on the advantages and disadvantages of narrative visualisation techniques. A promising direction for future research is to focus on the most common narrative visualisation techniques from the technical aspects in detail.

Another direction for future can be from a designer perspective of narrative visualisation techniques on how to make the content of elements to make viewers understand the content faster. It can also be interesting to compare data-driven stories of different social media platforms with each other, like Instagram and LinkedIn. In conclusion, this paper laid the groundwork of narrative visualisation and its techniques usage in corporate communication on LinkedIn. Based on the analysis, I can argue that narrative visualisation techniques make data-driven storytelling more appealing and interesting, and more in-depth research is required for development.

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## Appendices

### Appendix 1: Videos Captions

1	We've rounded up the 15 top skills that companies are looking for in new hires for 2020. Start learning today and find the #job meant for you: <a href="https://lnkd.in/eyxpnGt">https://lnkd.in/eyxpnGt</a> #InItTogether
2	Shaba wanted a career that aligned with her passion for cycling. She searched and applied on LinkedIn, and found the perfect #job. With millions of jobs on LinkedIn, find one meant for you: <a href="https://lnkd.in/ga39_5n">https://lnkd.in/ga39_5n</a> #InItTogether
3	Whether you're working or celebrating, happy holidays from all of us at LinkedIn. <a href="https://www.linkedin.com/posts/linkedin-whether-youre-working-or-celebrating-happy-activity-6615647213676703744-1gwC">https://www.linkedin.com/posts/linkedin-whether-youre-working-or-celebrating-happy-activity-6615647213676703744-1gwC</a>
4	Learning doesn't stop at sundown, which might be why most C-Suite learners watched LinkedIn Learning courses at night. Check out all the learning trends from this year: <a href="https://lnkd.in/eX-zAn6">https://lnkd.in/eX-zAn6</a> #AlwaysBeLearning
5	Avoid the urge to check your email over the holidays by using one of these handy auto-reply options. Find more ways to navigate the holidays at work: <a href="https://lnkd.in/eEp8pqR">https://lnkd.in/eEp8pqR</a>
6	Let recruiters know you're open and be the first to know about new opportunities that fit your job preferences with instant job alerts. <a href="https://lnkd.in/e_5URsK">https://lnkd.in/e_5URsK</a>
7	Na última semana, divulgamos a lista dos usuários que promoveram as melhores conversas no LinkedIn em 2019 e temos certeza que você deve estar imaginando como chegamos até a escolha final, não é? Então, dá uma olhada no vídeo e confira os detalhes de todo o processo de seleção dos profissionais mais engajados e engajadores da rede #LinkedInTopVoices <a href="https://www.linkedin.com/posts/linkedin_linkedintopvoices-activity-6611283532700499968-5al3">https://www.linkedin.com/posts/linkedin_linkedintopvoices-activity-6611283532700499968-5al3</a>
8	On #SmallBusinessSaturday, let's take a moment to celebrate the risks taken to make those business dreams a reality. <a href="https://www.linkedin.com/posts/linkedin_smallismighty-inittogogether-activity-6606605094978891776-bxHN">https://www.linkedin.com/posts/linkedin_smallismighty-inittogogether-activity-6606605094978891776-bxHN</a>
9	From “#ThankYou for your time” to “#Thanks for leading that meeting”, a bit of gratitude goes a long way. You've shared 959,089 “Thanks!” in posts this year. Let's work together to make it a million! <a href="https://www.linkedin.com/posts/linkedin-thankyou-thanks-activity-6605500400139284480-EjrU">https://www.linkedin.com/posts/linkedin-thankyou-thanks-activity-6605500400139284480-EjrU</a>
10	<a href="https://www.linkedin.com/posts/linkedin-share-insights-ask-for-guidance-and-build-activity-6656601112193314818-zX7I">https://www.linkedin.com/posts/linkedin-share-insights-ask-for-guidance-and-build-activity-6656601112193314818-zX7I</a>
11	Even if you don't know someone personally, following them can be a great way to keep up with their insights and content - you never know what opportunities it may open up in the future: <a href="https://lnkd.in/feu8kDE">https://lnkd.in/feu8kDE</a>
12	There are so many great reasons to hire military veterans into the workforce. Get all the facts at <a href="https://lnkd.in/dgxbKUc">https://lnkd.in/dgxbKUc</a>
13	You've thanked them for their service, now it's time to put them to work. We're celebrating #VeteransDay by highlighting the skills veterans can bring to the table and challenging you to bring them into the workforce. <a href="https://lnkd.in/dxXf9FM">https://lnkd.in/dxXf9FM</a> .
14	We're working hard behind the scenes to make sure your information stays protected so you can focus on what matters: Connecting with others. <a href="https://lnkd.in/gEDQFHU">https://lnkd.in/gEDQFHU</a>
15	Here's hoping your costume gets great reactions. Happy Halloween! Here's hoping your costume gets great reactions. Happy Halloween! <a href="https://www.linkedin.com/posts/linkedin_heres-hoping-your-costume-gets-great-reactions-activity-6595655878668492800-HtP_">https://www.linkedin.com/posts/linkedin_heres-hoping-your-costume-gets-great-reactions-activity-6595655878668492800-HtP_</a>
16	Through play, kids learn to make friends, solve problems and believe in themselves. Learn how LinkedIn for Nonprofits and Playworks partner together to build the bedrock of every successful organization — the people supporting them. Visit our website to learn more. <a href="https://lnkd.in/dayAgmF">https://lnkd.in/dayAgmF</a> . #InItTogether
17	Whether it's for advice, mentorship, or a simple introduction, keeping in touch with your professional community can help you discover new opportunities: <a href="https://lnkd.in/dcHVmHt">https://lnkd.in/dcHVmHt</a>
18	Whatever your purpose or passion, LinkedIn has millions of #jobs so you can find one meant for you: <a href="https://lnkd.in/gQvGRdg">https://lnkd.in/gQvGRdg</a> #InItTogether
19	LinkedIn Events is here! Get the most from your LinkedIn community by bringing them face-to-face for workshops, networking events, product launches, and more. Get all the info you need to create your first event on LinkedIn: <a href="https://lnkd.in/eHEv3D8">https://lnkd.in/eHEv3D8</a>
20	Sharing the news, articles, and opportunities you care about allows people to get to know you better. Get the conversation started: <a href="https://lnkd.in/dub7M9W">https://lnkd.in/dub7M9W</a>
21	Having a great boss can impact your life and #job in a positive way. To celebrate #NationalBossDay, tell us about a boss who impacted you and tag them. <a href="https://www.linkedin.com/posts/linkedin-job-nationalbossday-activity6590232744243052545-J3yK">https://www.linkedin.com/posts/linkedin-job-nationalbossday-activity6590232744243052545-J3yK</a>

22	The connections you make on LinkedIn should be both meaningful and (most importantly) real. Here's what we're doing to stop fake profiles, and how you can help us by reporting anything suspicious: <a href="https://lnkd.in/exRhHRx">https://lnkd.in/exRhHRx</a>
23	Teachers, we see all that you do. You are appreciated. #WorldTeachersDay
24	Make sure you're smilin' and profilin' on #WorldSmileDay. Members with a profile photo receive up to 9X more connection requests. <a href="https://www.linkedin.com/posts/linkedin_worldsmileday-activity-6585966042126790656-omuW">https://www.linkedin.com/posts/linkedin_worldsmileday-activity-6585966042126790656-omuW</a>
25	Neil and Joanna are on a mission to bring Grimsby's community together. They're just starting out in their journey – and they need your help. Follow Nunny's Farm here: <a href="https://lnkd.in/eriZW8u">https://lnkd.in/eriZW8u</a>
26	Finding the #job meant for you just got easier. Stand out with LinkedIn's new Skill Assessments: <a href="https://lnkd.in/e9THcd7">https://lnkd.in/e9THcd7</a> #InItTogether
27	Our job - while you search for one - is to keep you safe. Here's how to report anything suspicious: <a href="https://lnkd.in/daHxF9q">https://lnkd.in/daHxF9q</a>
28	By adding your interests on your LinkedIn profile, you'll be able to find and connect with people who have similar career goals. Here's how to get started: <a href="https://lnkd.in/eMixtPh">https://lnkd.in/eMixtPh</a>
29	Can the right connection give Chelsey the confidence she needs to start the career she's always wanted? <a href="https://lnkd.in/eQ2DvBk">https://lnkd.in/eQ2DvBk</a> #InItTogethe
30	LinkedIn Member Mia saw an opportunity to bring her six-year-old son's imagination to life. Using the skills she learned from courses, Mia helped her son write and publish his first book. <a href="https://lnkd.in/ew655Tg">https://lnkd.in/ew655Tg</a>
31	People say there are no fish left in Grimsby, U.K. Darren, one of Grimsby's last fishermen, thinks otherwise. <a href="https://lnkd.in/efhybYQ">https://lnkd.in/efhybYQ</a> #InItTogether
32	How far can a connection take you? For the past three months, we have been putting this question to the test in Grimsby, the U.K. Find out more about the initiative here: <a href="https://lnkd.in/eAhp2nH">https://lnkd.in/eAhp2nH</a> #InItTogether
33	Learning can happen anywhere, and new skills will take you everywhere. #NationalOnlineLearningDay
34	For LinkedIn member Tanya, pursuing new goals starts with new skills. What drives you to learn? <a href="https://www.linkedin.com/posts/linkedin_for-linkedin-member-tanya-pursuing-new-goals-activity-6578700179279486976-e4Kp">https://www.linkedin.com/posts/linkedin_for-linkedin-member-tanya-pursuing-new-goals-activity-6578700179279486976-e4Kp</a>
35	REMINDER: You're doing great. #NationalEncouragementDay
36	Want to get recognized by the right people? Start with the basics: add a photo and keep your title and industry up-to-date. Follow our LinkedIn Guide to Networking for more hints and tips: <a href="https://lnkd.in/e2nJx4n">https://lnkd.in/e2nJx4n</a>
37	Staying connected with people you've met in your career journey keeps you up to date on opportunities to help nurture their career - and yours. Want more networking hints and tips? Follow our LinkedIn Guide to Networking: <a href="https://lnkd.in/ebfgahP">https://lnkd.in/ebfgahP</a>
38	A good network is quality over quantity, and most often the most quality connections are people you've already met. For more helpful tips, follow our LinkedIn Guide to Networking: <a href="https://lnkd.in/dZ5RTmu">https://lnkd.in/dZ5RTmu</a>
39	Wanting to pivot your career is perfectly normal, and LinkedIn's job search tools can help: <a href="https://lnkd.in/ep3tki9">https://lnkd.in/ep3tki9</a>
40	Control your experience. Learn more about your account settings and how to make the most of them: <a href="https://lnkd.in/g_w4Wtv">https://lnkd.in/g_w4Wtv</a>
41	Keep. It. Professional. Here's how to report anything that isn't: <a href="https://lnkd.in/e-Avvs">https://lnkd.in/e-Avvs</a>
42	It seems like everyone's learning something new this Summer. What skills will you be adding to your #SummerLearningList?
43	You belong here. Harassment doesn't. Here's how to report unprofessional behavior on LinkedIn: <a href="https://lnkd.in/gFjQTQf">https://lnkd.in/gFjQTQf</a>
44	Diamond Blackwood is like a lot of people: she can use a hand finding a job. Unlike others, she's living in a homeless shelter. She's not letting that hold her back though. Watch Diamond's story and leave a comment if you can lend a hand. #InItTogether
45	Dads are good at everything. So, which of his many skills deserves an endorsement? #HappyFathersDay
46	Where will your journey take you next? For one lucky member, it's winning the #IJustCantWaitToBeContest and a dream Disney experience. For millions of others, it's finding their next #job on: <a href="https://lnkd.in/exAS3Zf">https://lnkd.in/exAS3Zf</a>
47	Making magic happen: That'll be your #job when you apply for this Disney Director of Sales & Digital supporting key accounts with Disney Music Group, a part of The Walt Disney Studios: <a href="https://lnkd.in/gAtUWZD">https://lnkd.in/gAtUWZD</a> #InItTogether
48	Keep busy during those endless summer days by adding some of our favourite LinkedIn Learning courses to your seasonal playlist. Share what you want to learn this summer with #SummerLearningList: <a href="https://lnkd.in/e-ip2kT">https://lnkd.in/e-ip2kT</a> .

49	#Job GOOOOAAAAAAAAAAAAAAAAALLLLLLLLLLSSSSSS. Apply for this NikeGlobal Football Marketing job now: <a href="https://lnkd.in/eygxtmt">https://lnkd.in/eygxtmt</a> #WomensWorldCup#InItTogether
50	A #job that decides how Twitter tweets? This is starting to feel a little too meta. Apply to this director job today: <a href="https://lnkd.in/e5s6J_r">https://lnkd.in/e5s6J_r</a> #InItTogether
51	Interviewing is a skill that takes practice, but LinkedIn Learning has courses to help: <a href="https://lnkd.in/e-PDxHh">https://lnkd.in/e-PDxHh</a>
52	How did Emily K. Graham break the glass ceiling and become an executive at a top PR firm? Hard work, grit, and knowledge of her worth. Watch her inspiring #HowIGotHere story, then find the #job meant for you: <a href="https://lnkd.in/gD9NucB">https://lnkd.in/gD9NucB</a> #InItTogether."
53	Ready to add binge-watching to your official job description? Apply to this Netflix #job today: <a href="https://lnkd.in/eAtAR-q">https://lnkd.in/eAtAR-q</a> #InItTogether
54	Who are you rooting for this week? Because we're rooting for you. Apply for this #job with the National Basketball Association (NBA) today: <a href="https://lnkd.in/eHawU-r">https://lnkd.in/eHawU-r</a> #InItTogether
55	Rohit loves working in technology but has other passions, too. He found a job on LinkedIn that let him do both. With 20 million #jobs on LinkedIn, find one meant for you: <a href="https://lnkd.in/eDNPQ5G">https://lnkd.in/eDNPQ5G</a> #InItTogether
56	We asked for your best advice from mom. Turns out, mom really knows best. <a href="https://www.linkedin.com/posts/linkedin_happymothersday-activity-6533362617975619584-4rtn">https://www.linkedin.com/posts/linkedin_happymothersday-activity-6533362617975619584-4rtn</a>
57	Help Patagonia save our home planet & design a better world. Apply now as their new Digital Brand Designer: <a href="https://lnkd.in/e5ws-_y">https://lnkd.in/e5ws-_y</a> With 20 million #jobson LinkedIn, find one meant for you. #InItTogether
58	Where would you be right now if you followed your dreams? With 20 million #jobs on LinkedIn, find one meant for you: <a href="https://lnkd.in/g44QS8e#InItTogether">https://lnkd.in/g44QS8e#InItTogether</a>
59	Earn it and hustle. That's the advice of Daymond John, entrepreneur, investor, and Shark Tank host. Learn how he rose to success in this episode of #HowIGotHere, and then find the #job meant for you: <a href="https://lnkd.in/d-XT57F#InItTogether">https://lnkd.in/d-XT57F#InItTogether</a>
60	Happy National Small Business Week! All week long, we'll be celebrating the power of small businesses. What 'mighty moments' has your business had? Share your story on LinkedIn with the hashtag #SmallisMighty and tag anyone who helped along the way. <a href="https://lnkd.in/g3ytE_N">https://lnkd.in/g3ytE_N</a>



## Appendix 2: Videos Screenshot

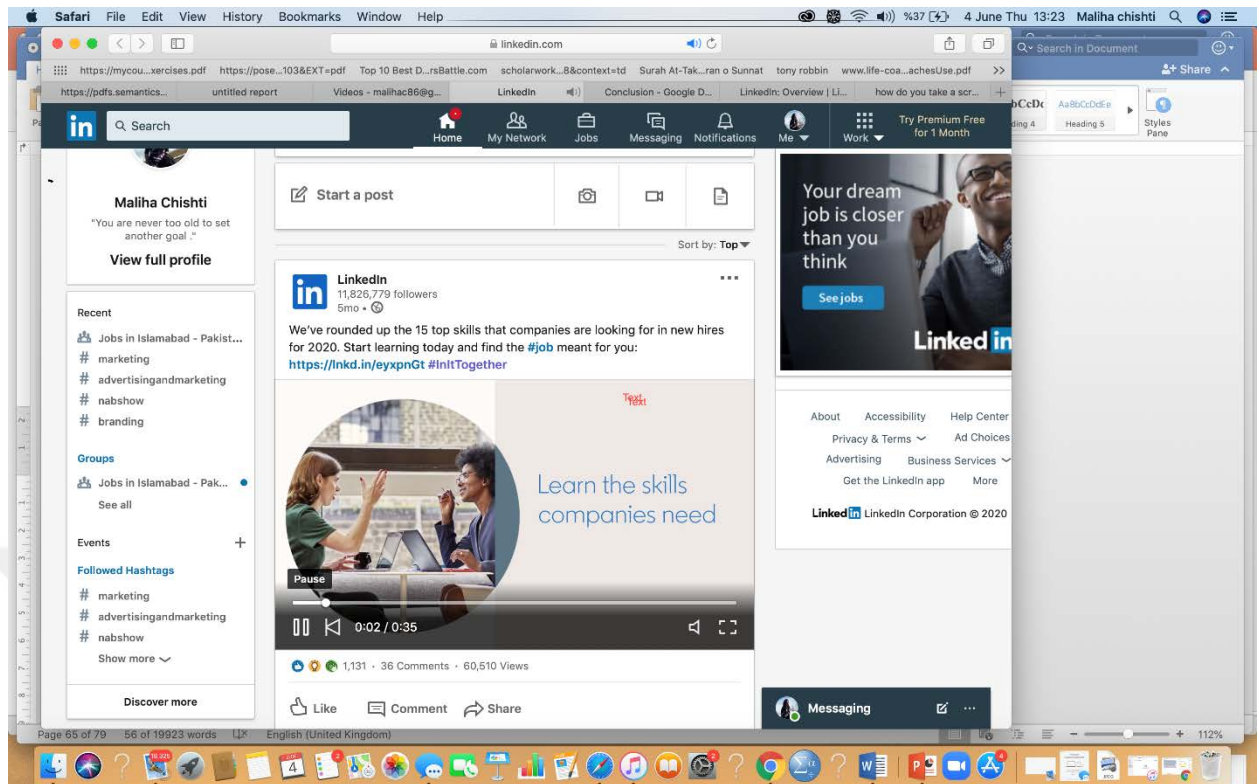


Figure – A1: Learn the skills companies need. Source: <https://urlzs.com/Jb2b8>

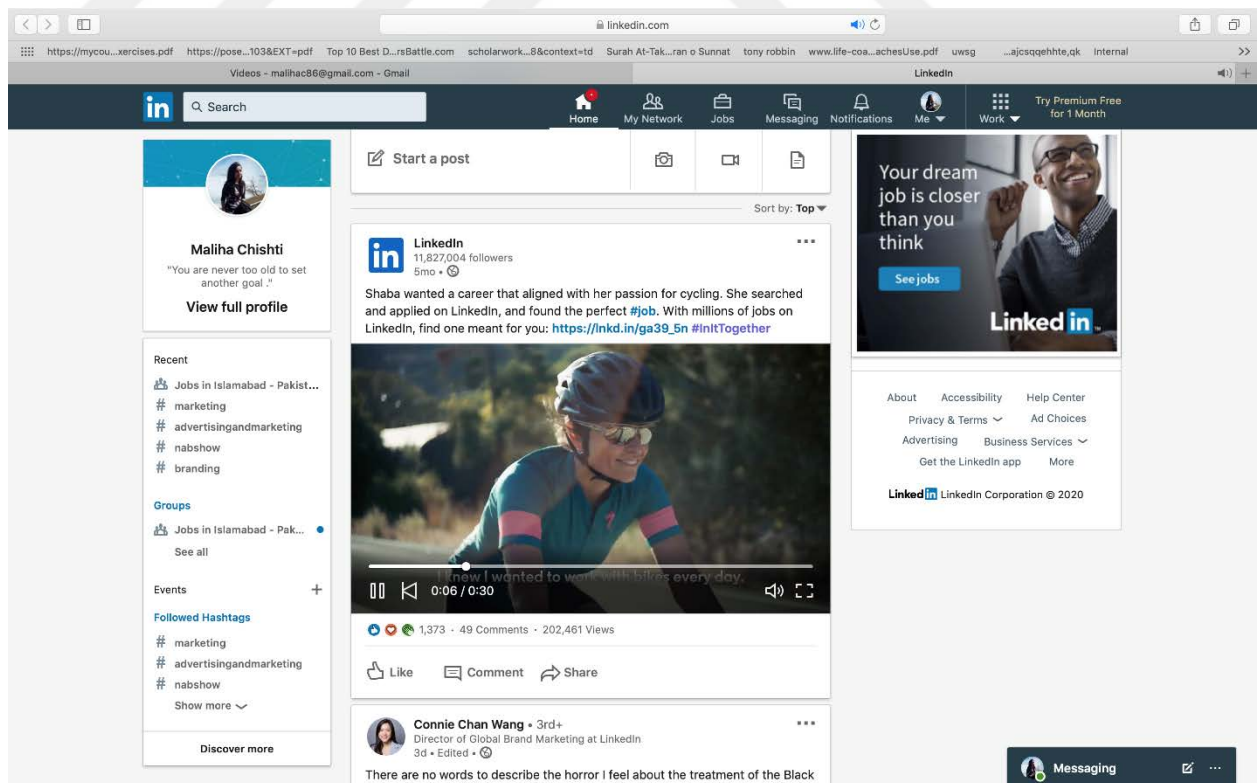


Figure – A2: Passion for cycling. Source: <https://urlzs.com/SGS69>

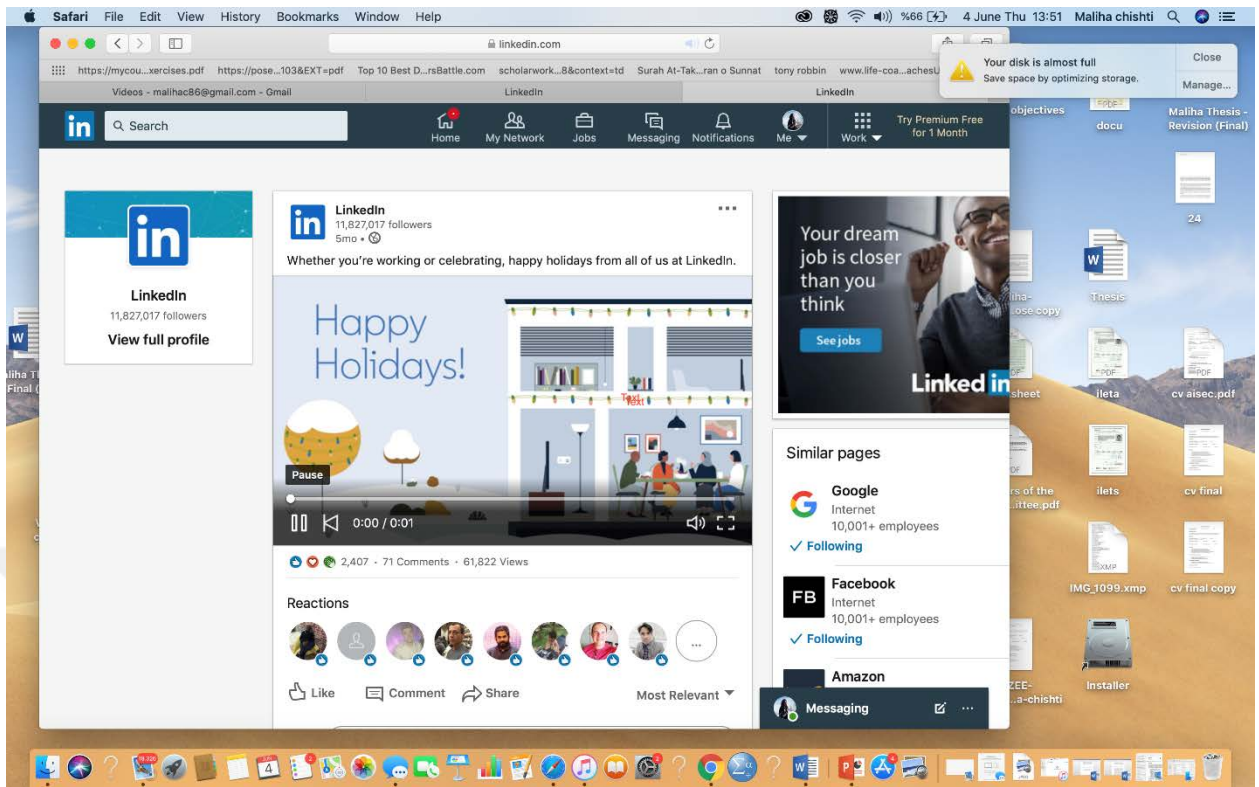


Figure – A3: Happy Holidays. Source: <https://urlzs.com/A1h3G>

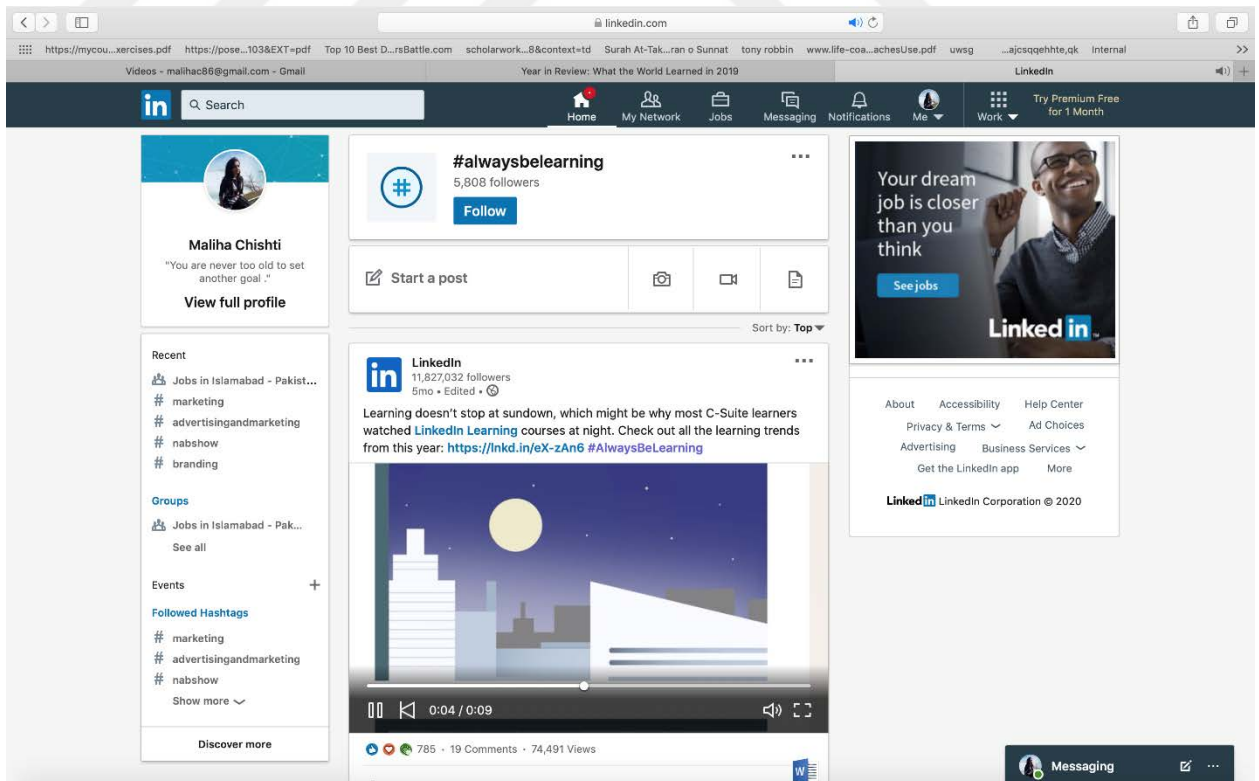


Figure – A4: LinkedIn learning courses at night. Source: <https://urlzs.com/RD47L>



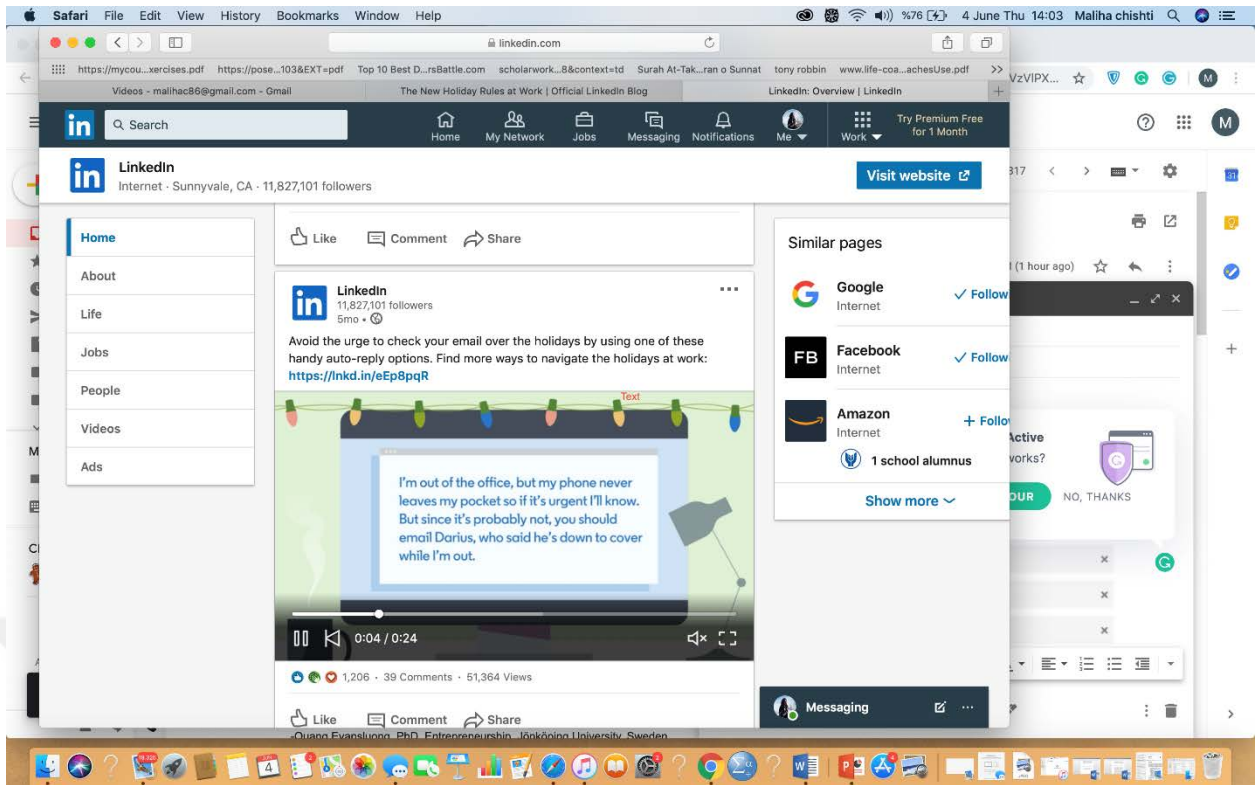


Figure – A5: Autoreply Options. Source: <https://urlzs.com/WxMrx>

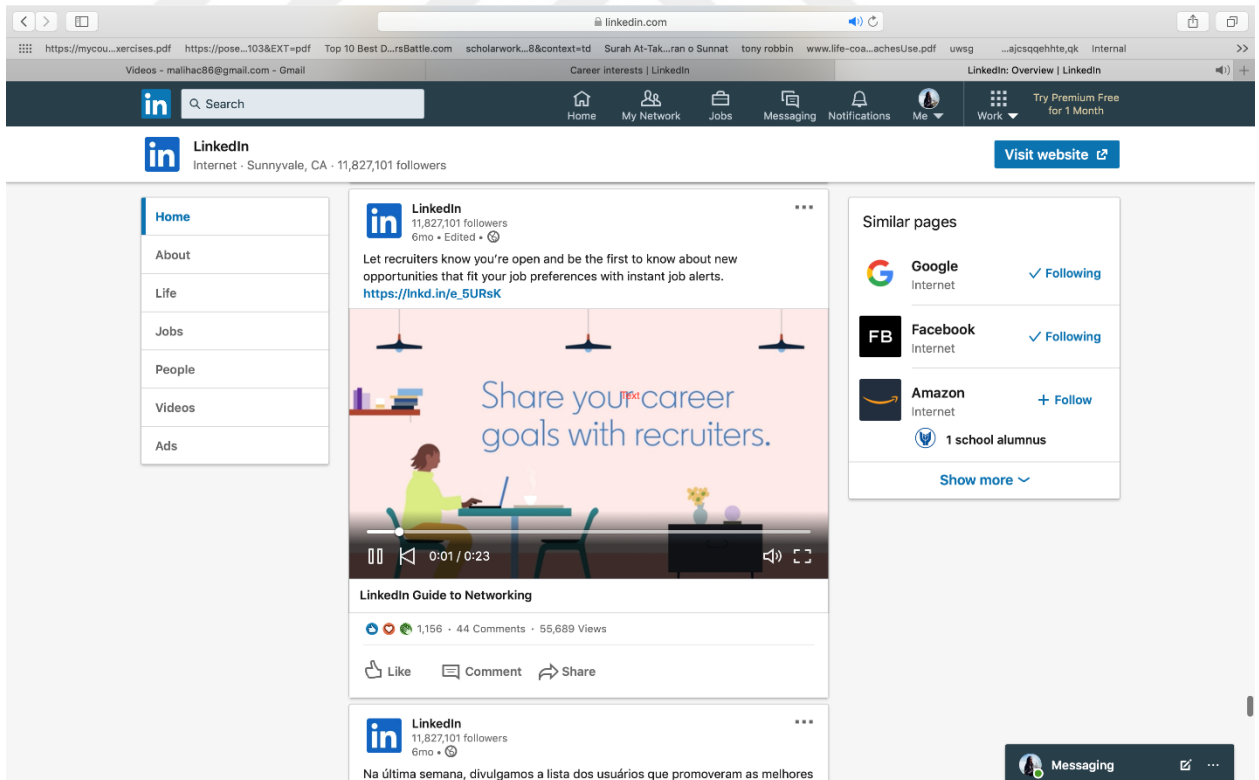


Figure – A6: Share your career goals. Source: <https://urlzs.com/UaXud>

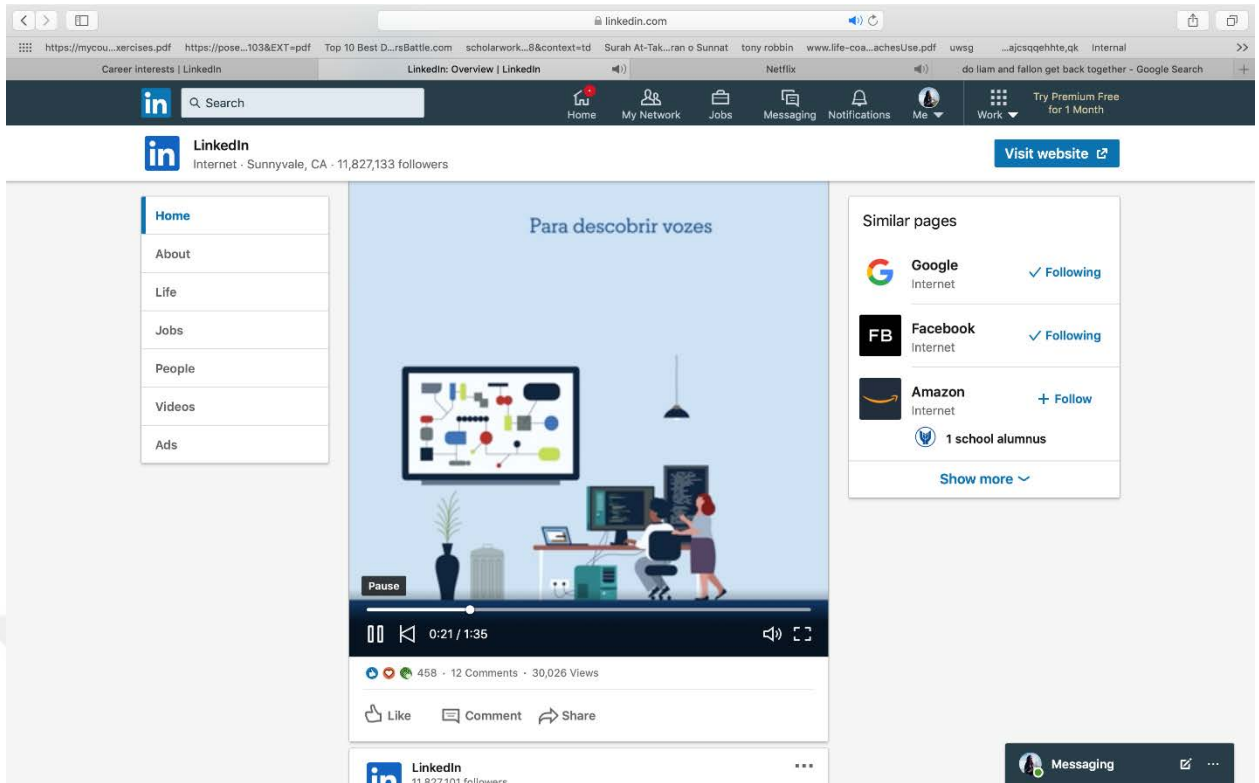


Figure – A7: Top Voices. Source: <https://urlzs.com/KZUYU>

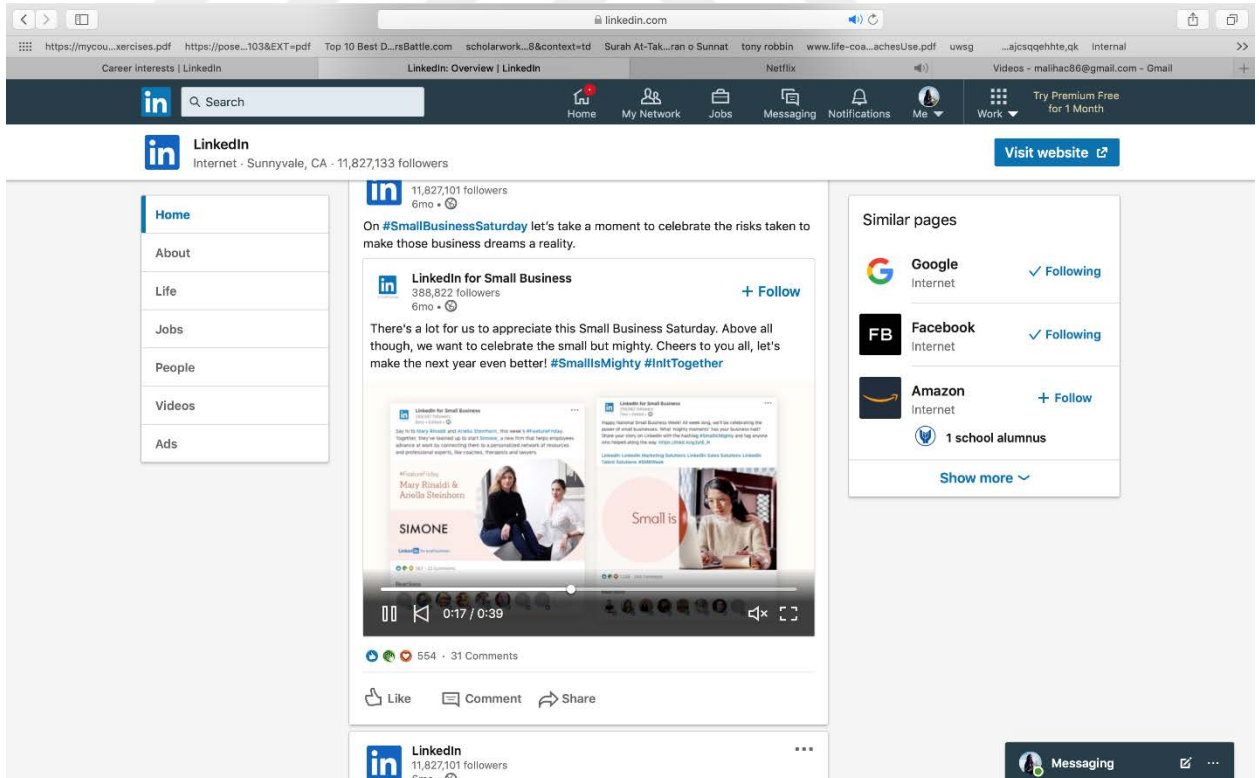


Figure – A8: LinkedIn for Small Business. Source: <https://urlzs.com/4g6Zc>

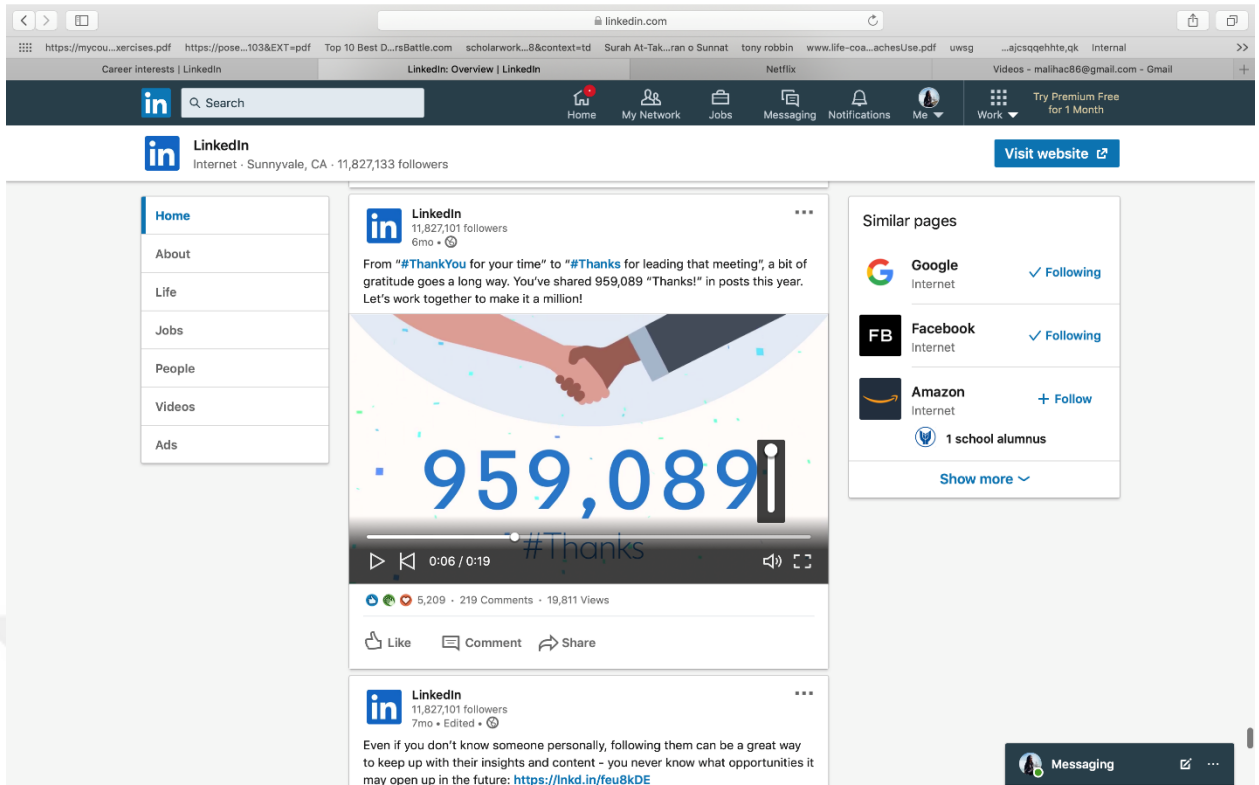


Figure – A9: 959,089 ‘thanks’ shared. Source: <https://urlzs.com/Zuq9R>

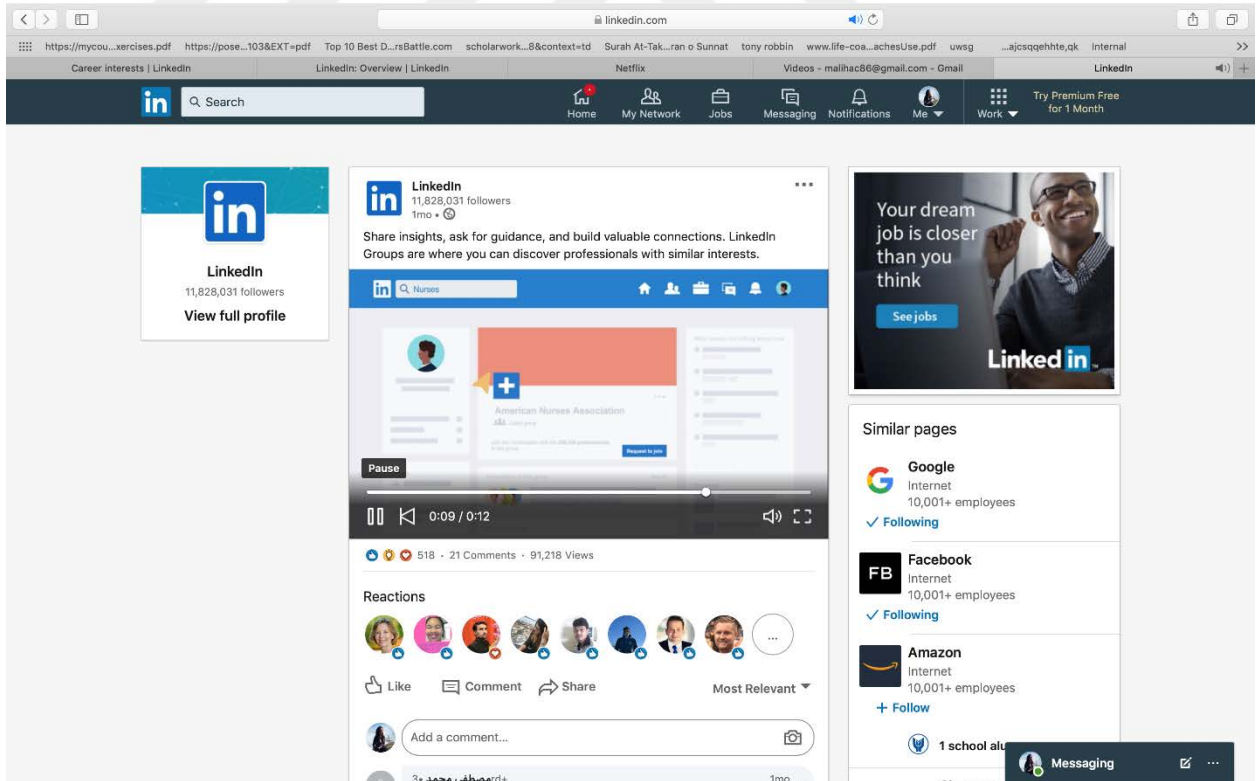


Figure A10: LinkedIn Groups. Source: <https://urlzs.com/AgHHr>

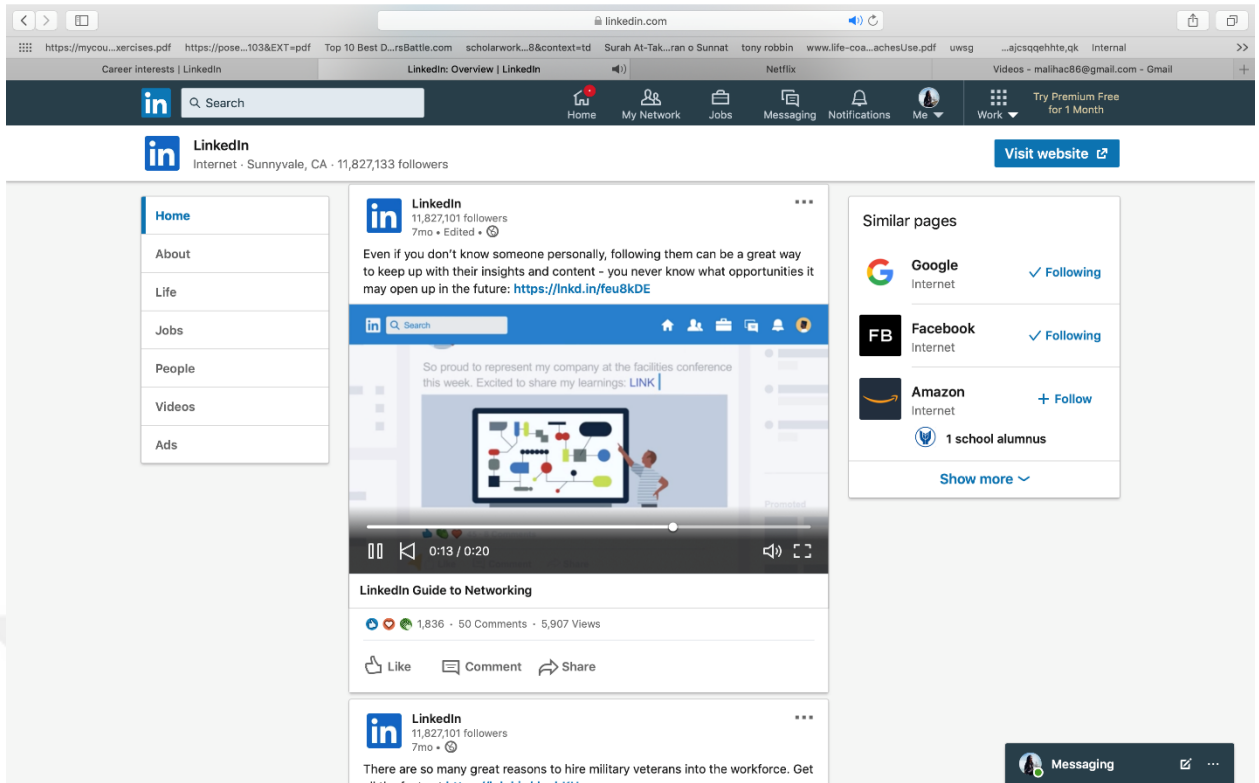


Figure – A11: LinkedIn Guide to Networking. Source: <https://urlzs.com/qiPez>

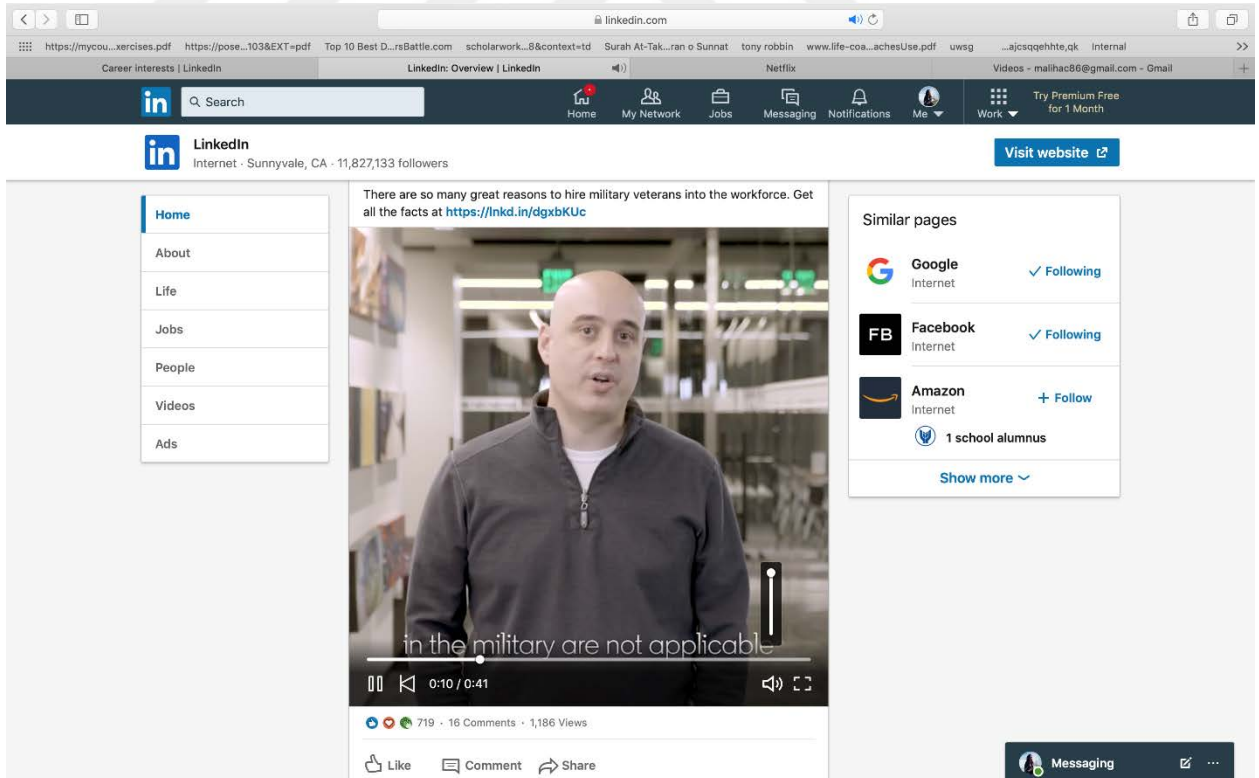


Figure – A12: Hiring Military Veterans. Source: <https://urlzs.com/X6Fwx>

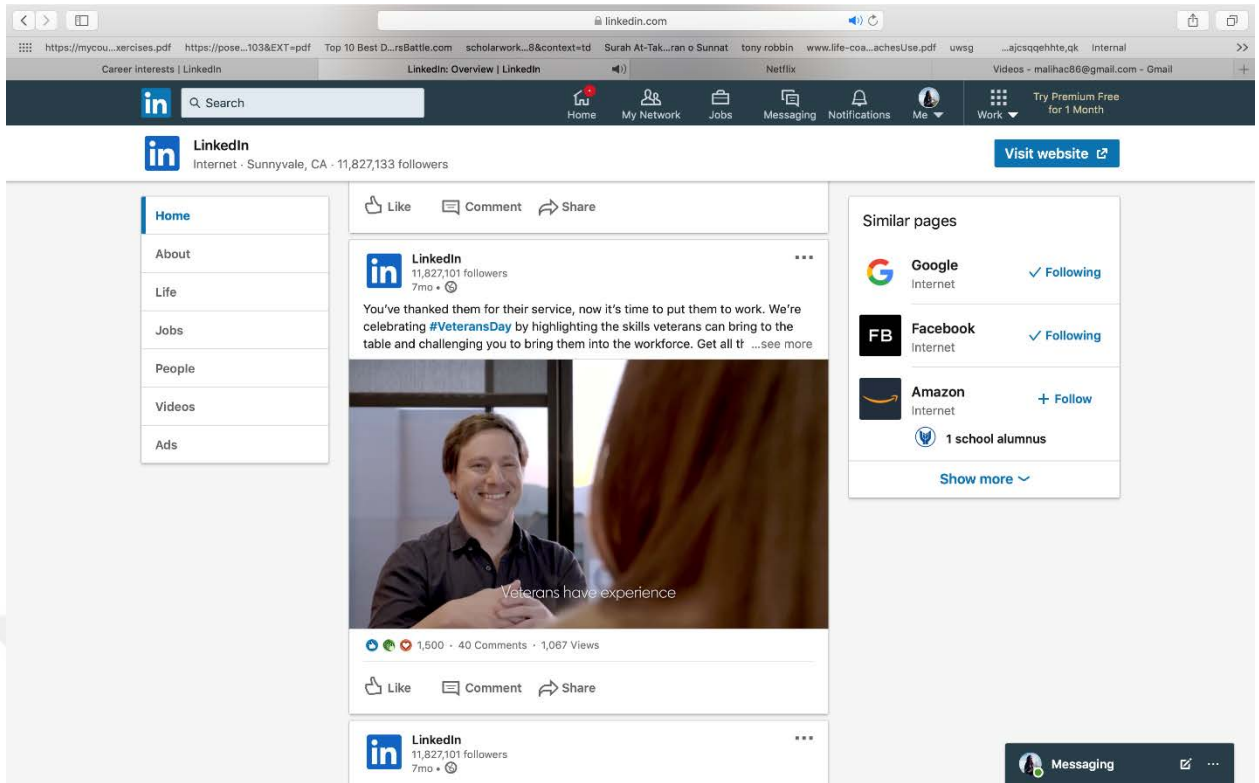


Figure – A13: Veterans Day. Source: <https://urlzs.com/dJfyV>

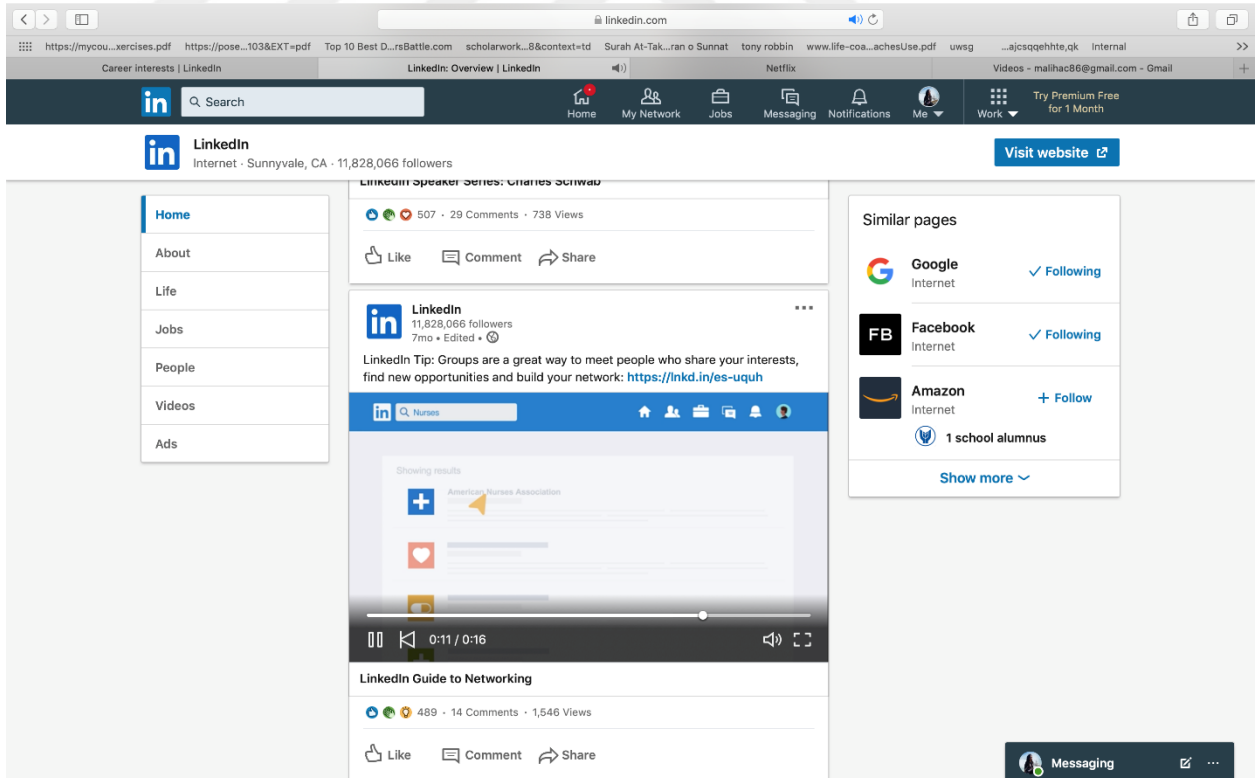


Figure – A14: LinkedIn Tips. Source: <https://urlzs.com/6p93L>



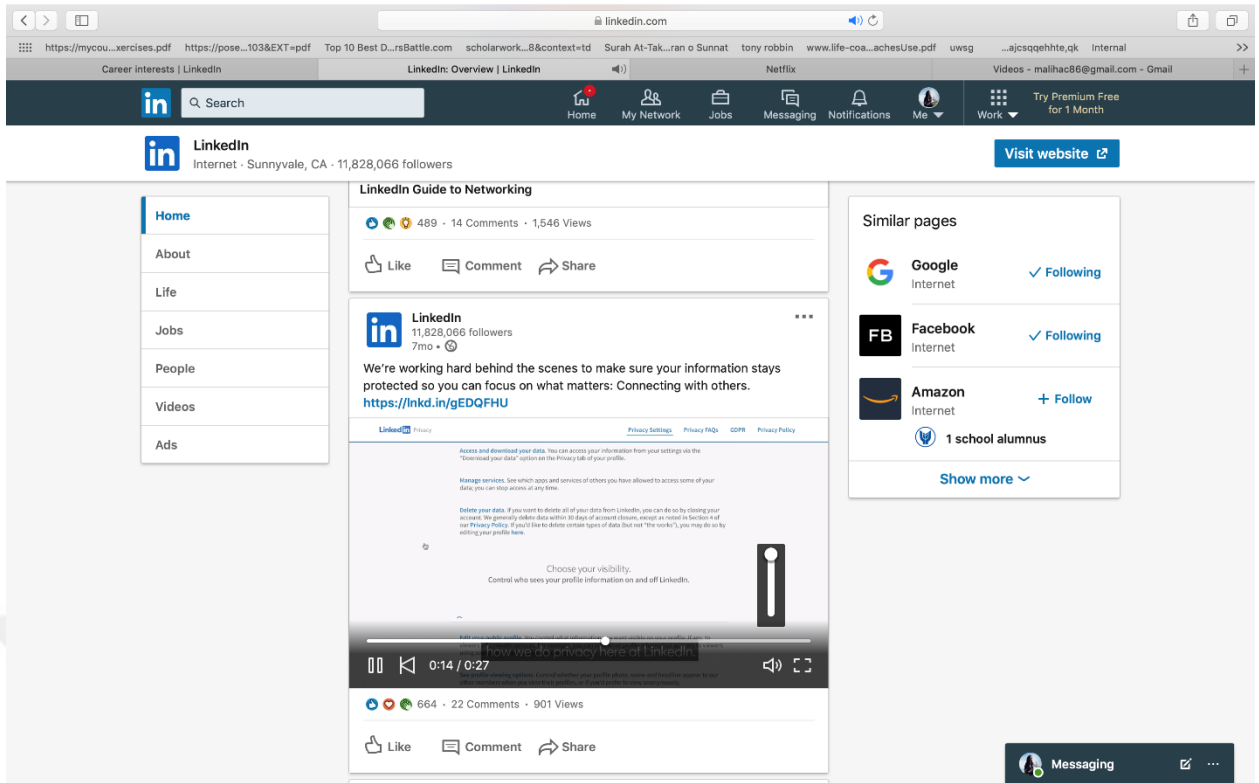


Figure – A15: Information Protection. Source: <https://urlzs.com/E3wmg>

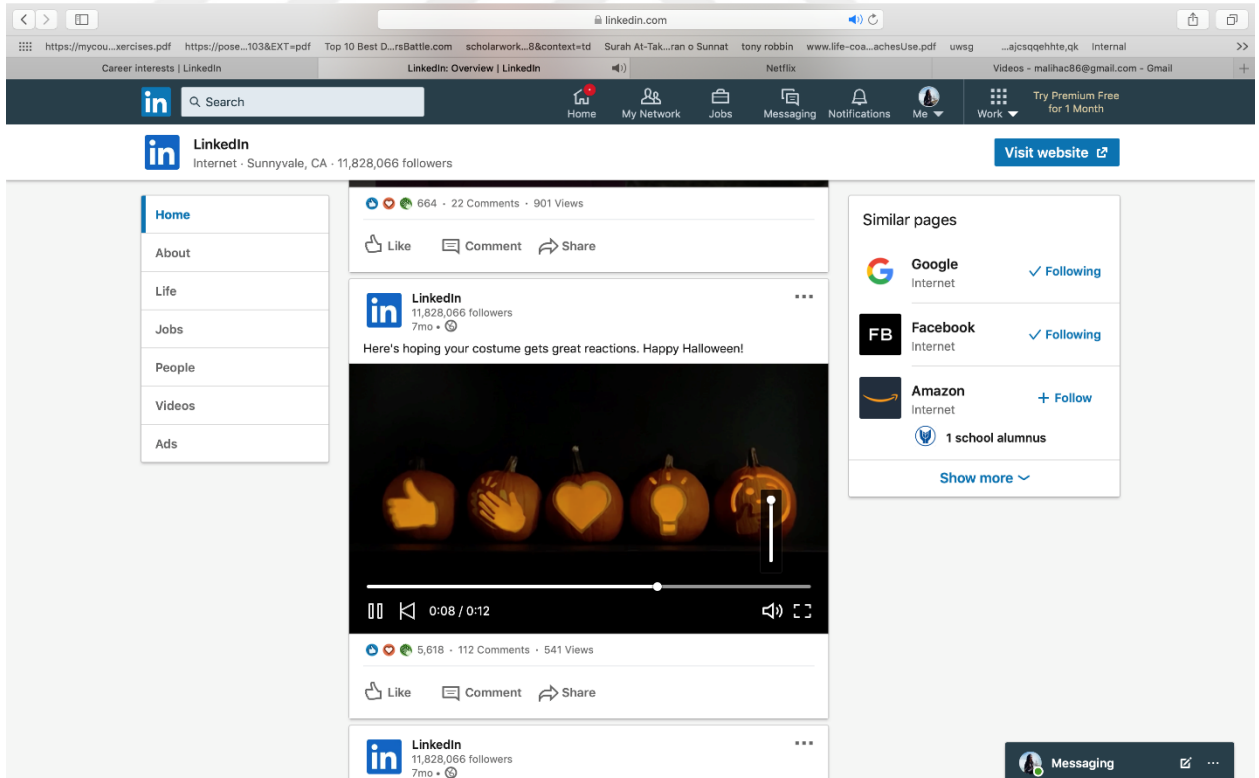


Figure – A16: Happy Halloween. Source: <https://urlzs.com/tTYjv>

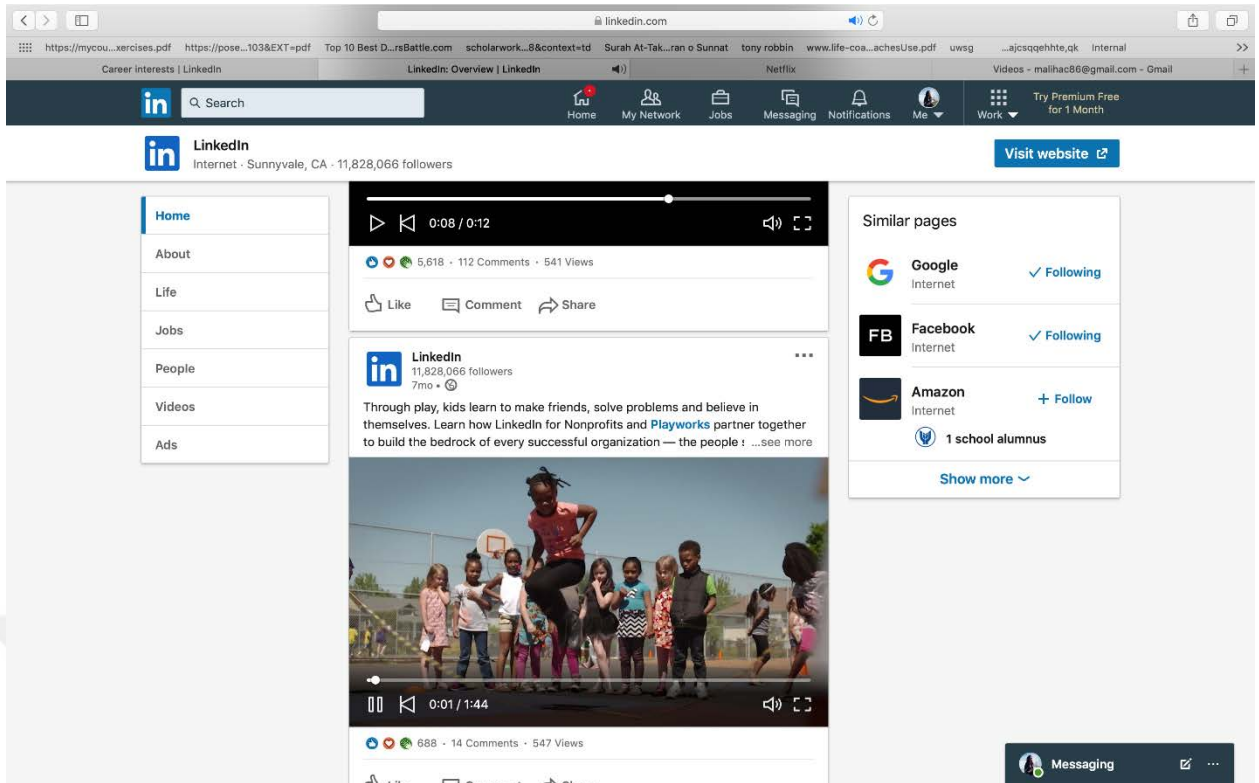


Figure – A17: LinkedIn and Playworks. Source: <https://urlzs.com/WMx9a>

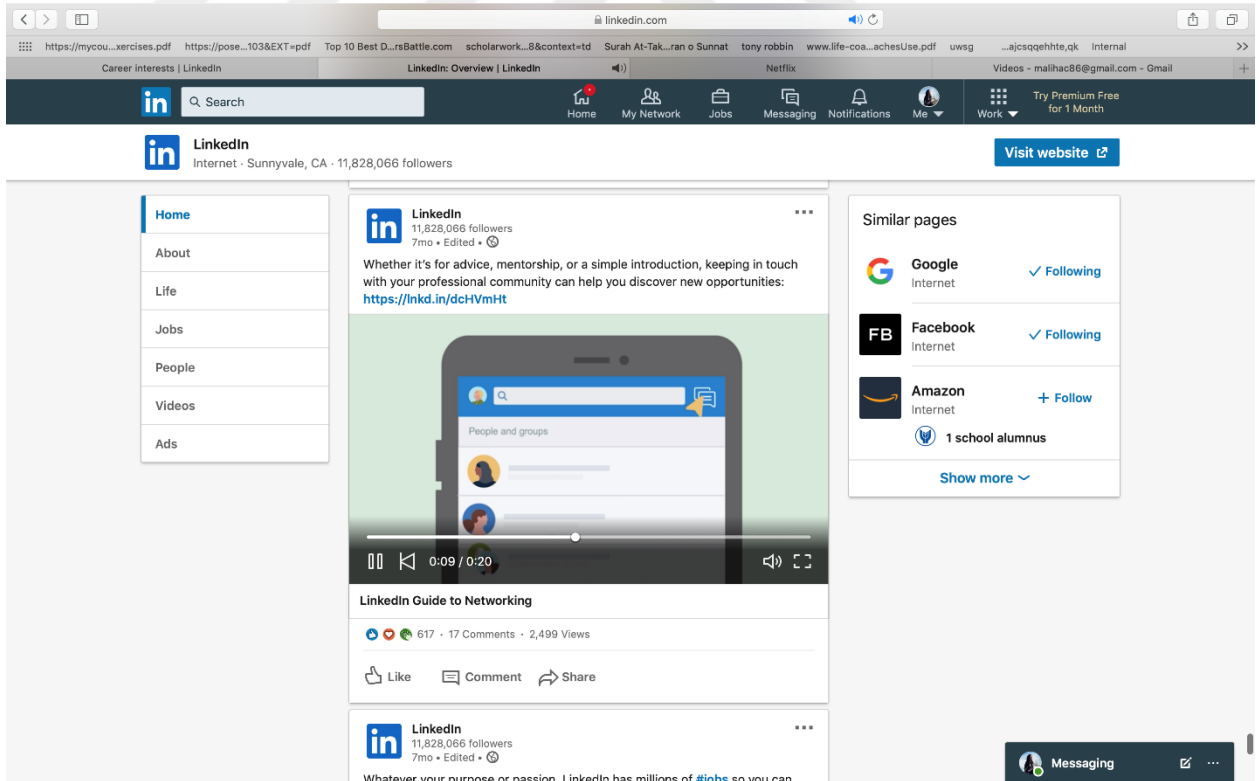


Figure – A18: LinkedIn guide to networking. Source: <https://urlzs.com/nxV9T>

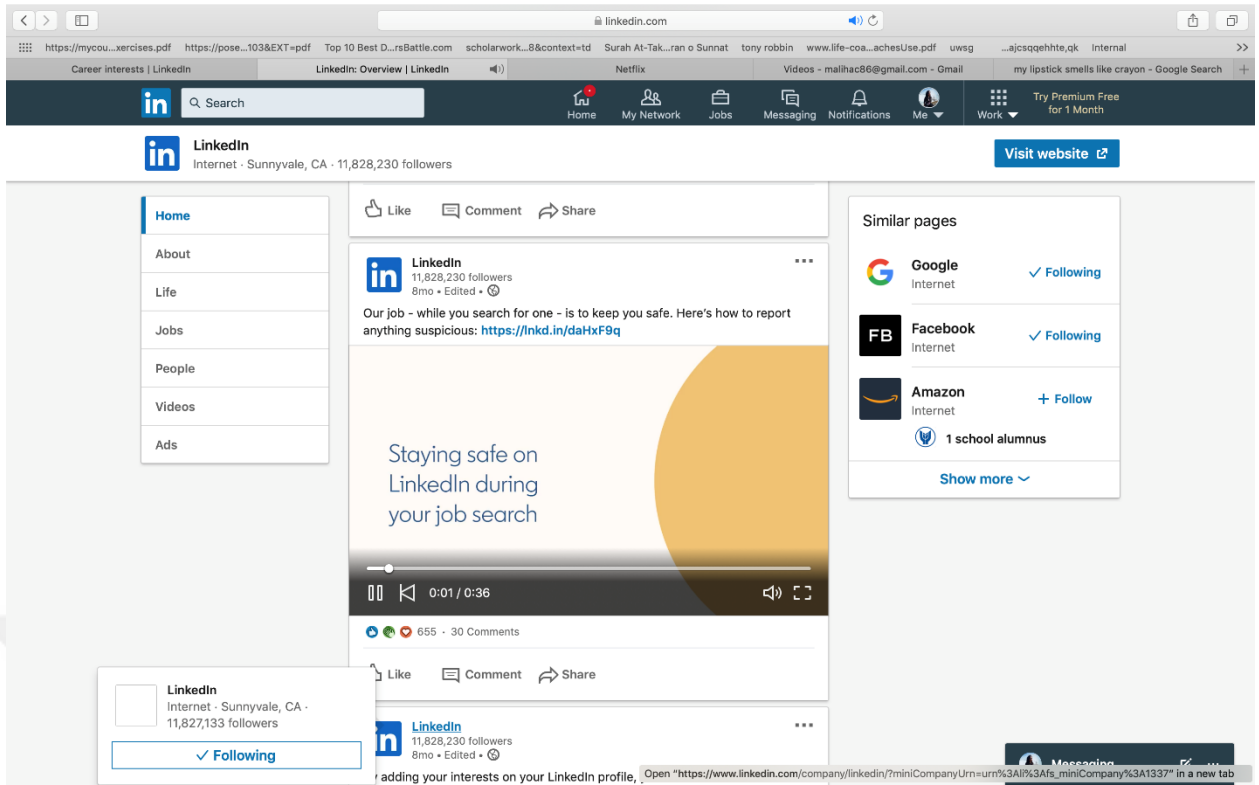


Figure – A19: Reporting anything suspicious. Source: <https://urlzs.com/VS6pm>

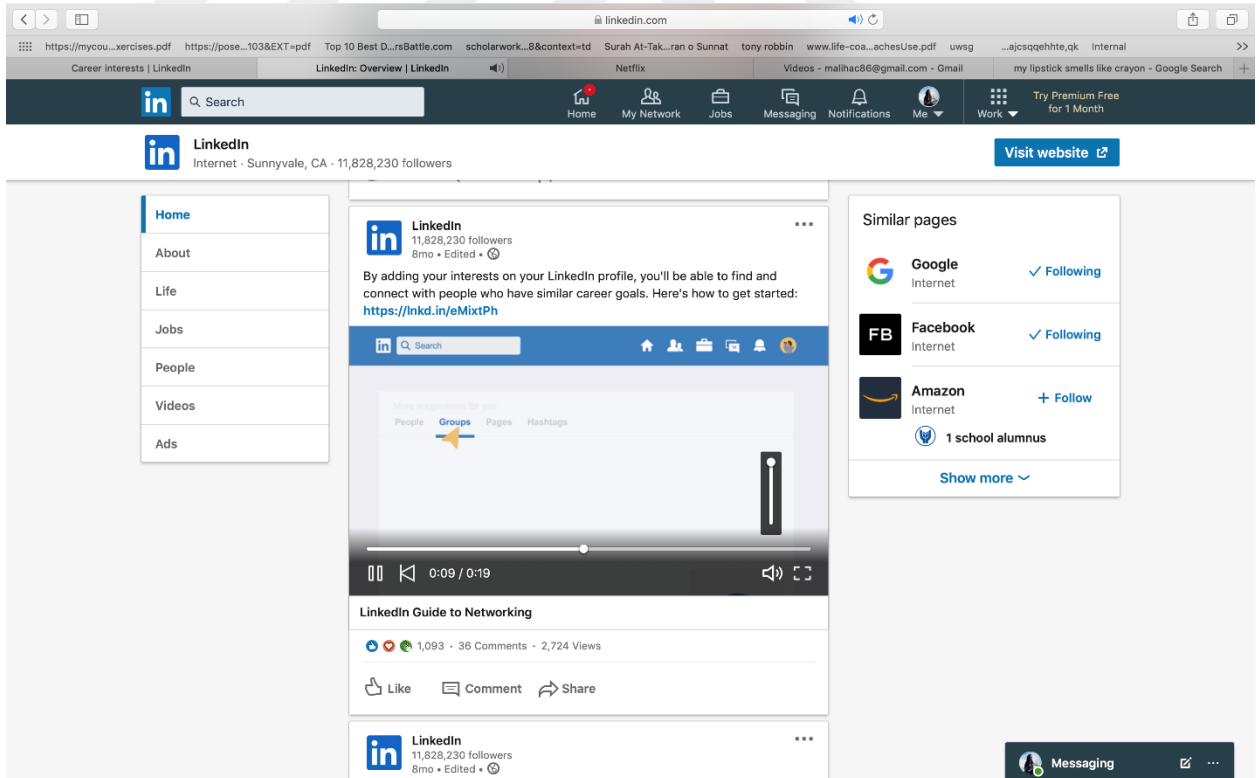


Figure – A20: Adding your Interests in LinkedIn profile. Source: <https://urlzs.com/CT4ws>



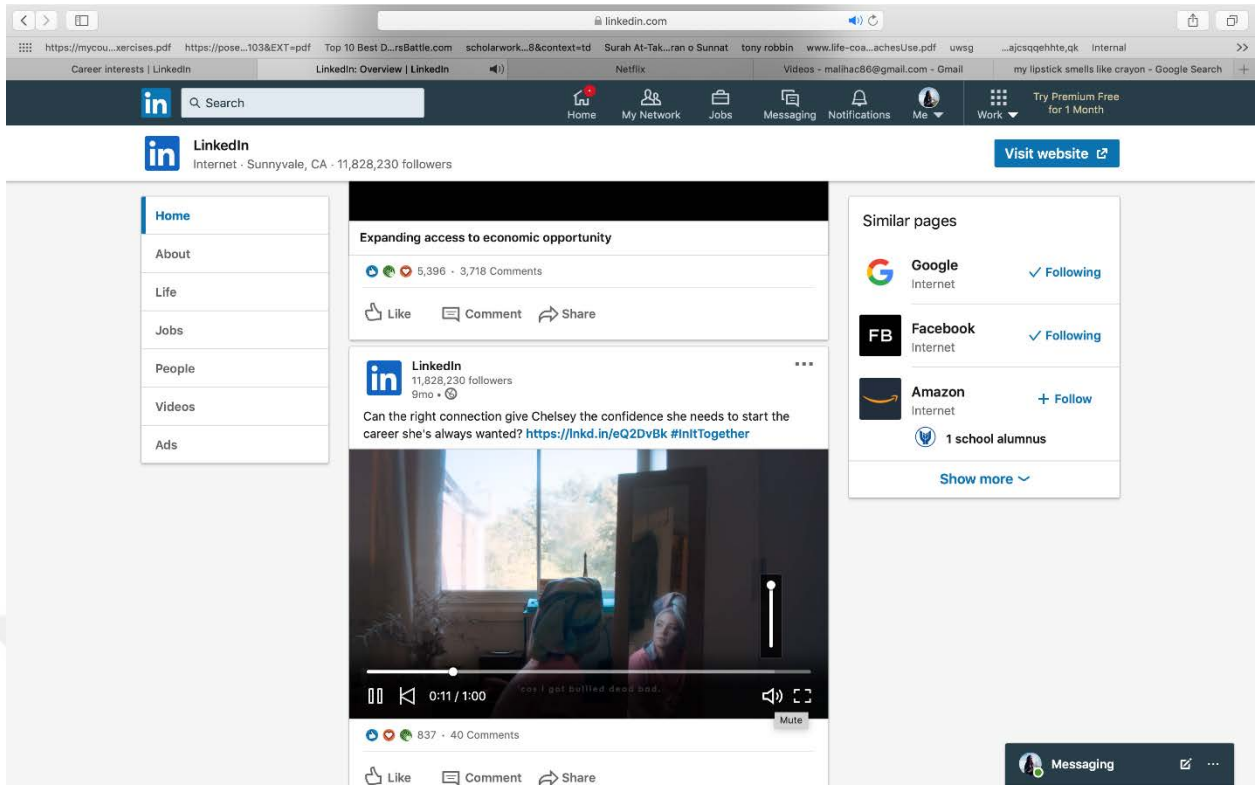


Figure – A21: Right Connection. Source: <https://urlzs.com/zpr9S>

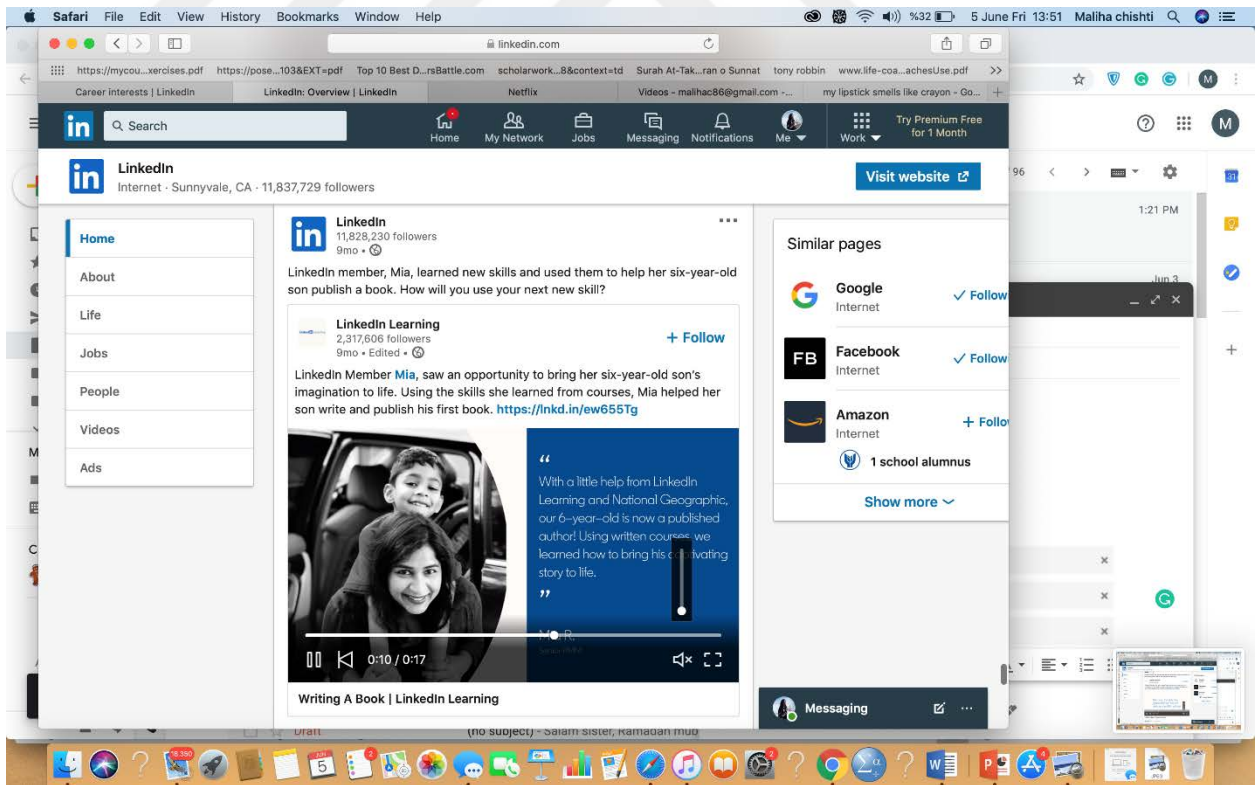


Figure – A22: Writing and publishing the first book. Source: <https://urlzs.com/4zF8a>

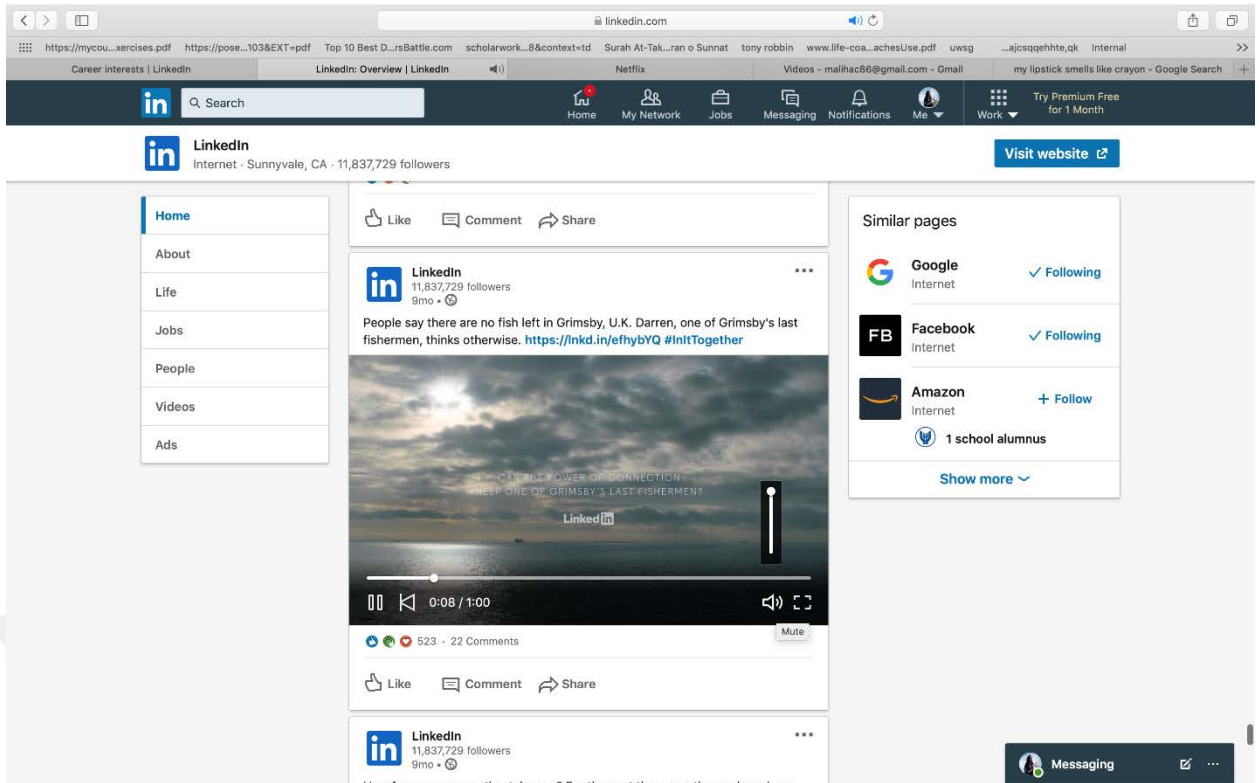


Figure – A23: Grimsby’s last fisherman. Source: <https://urlzs.com/WHFFe>

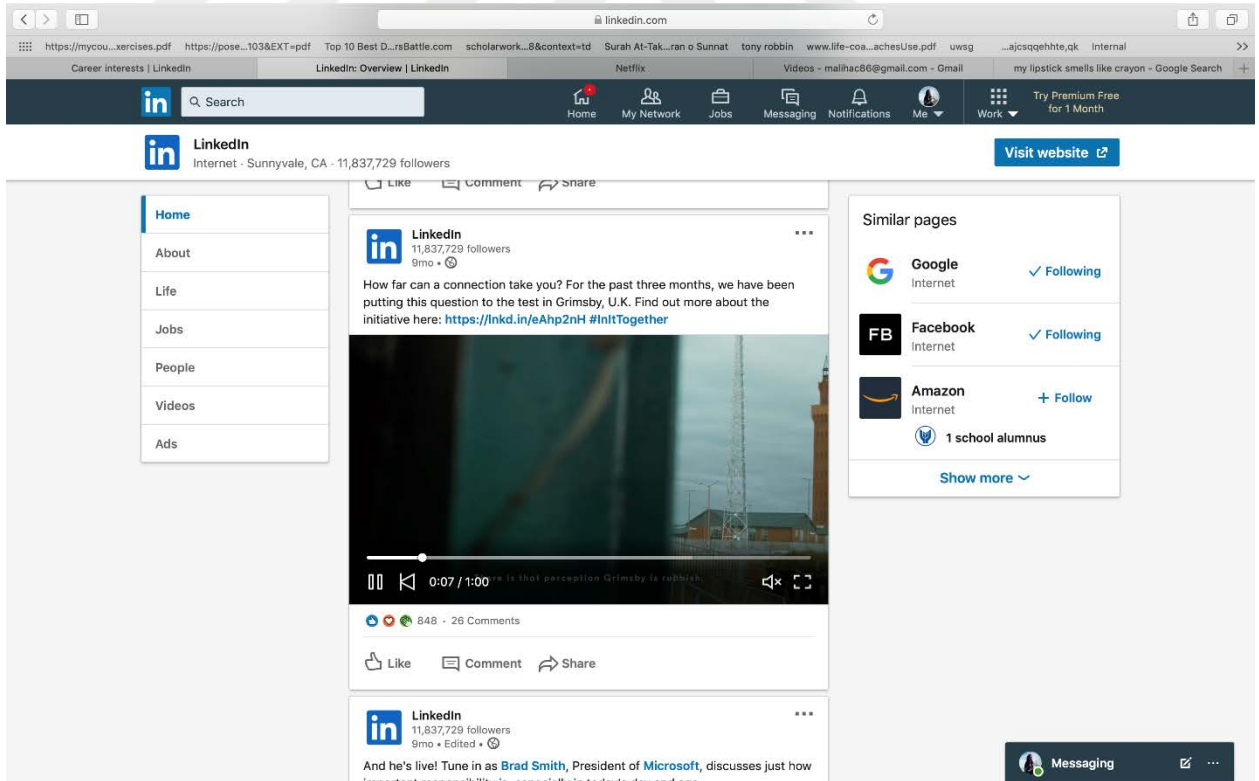


Figure – A24: How far can a connection take you? Source: <https://urlzs.com/2JGKt>

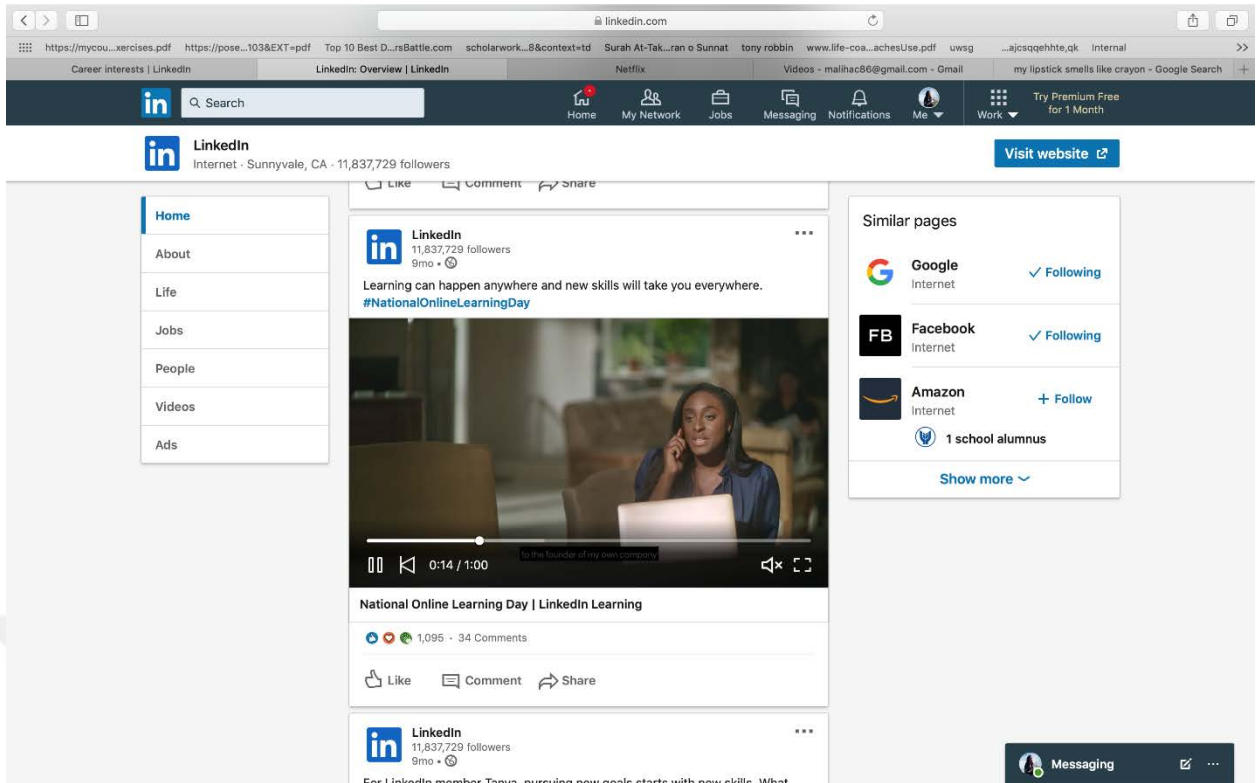


Figure – A25: National Online Learning Day. Source: <https://urlzs.com/hF4tH>

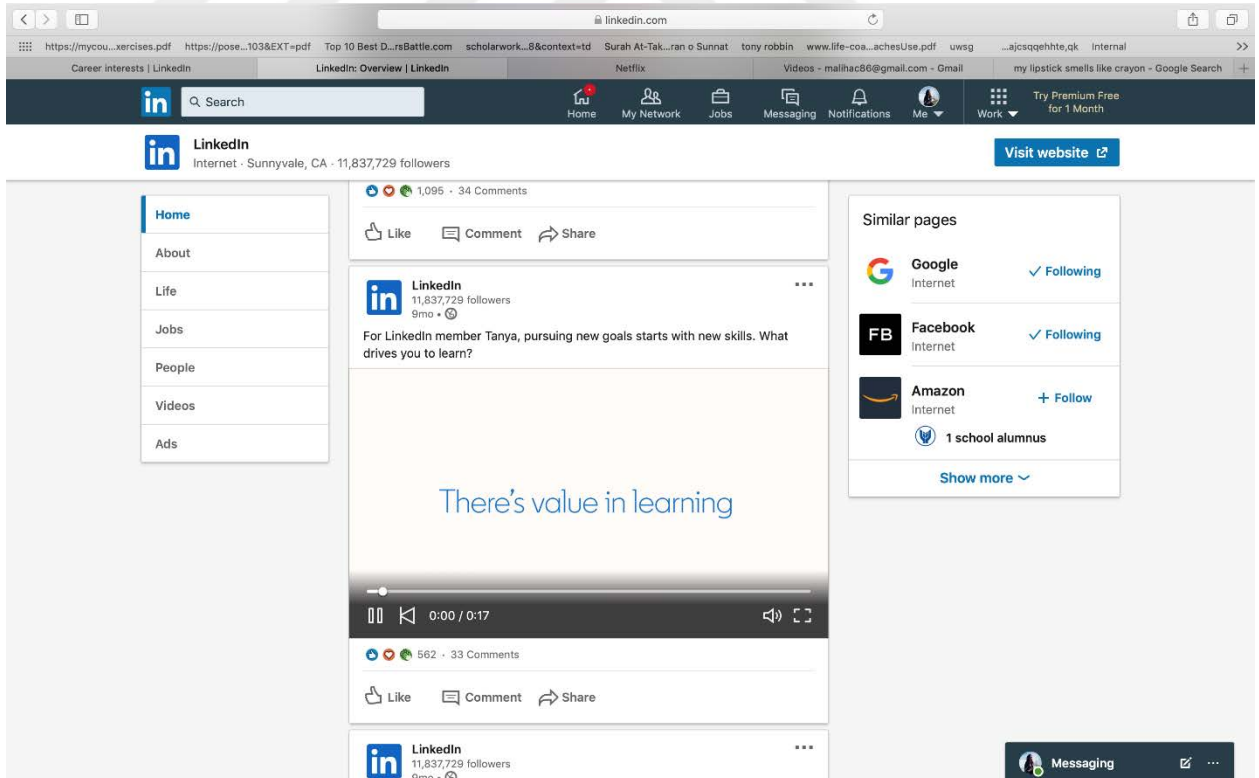


Figure – A26: There's value in learning. Source: <https://urlzs.com/syaUZ>

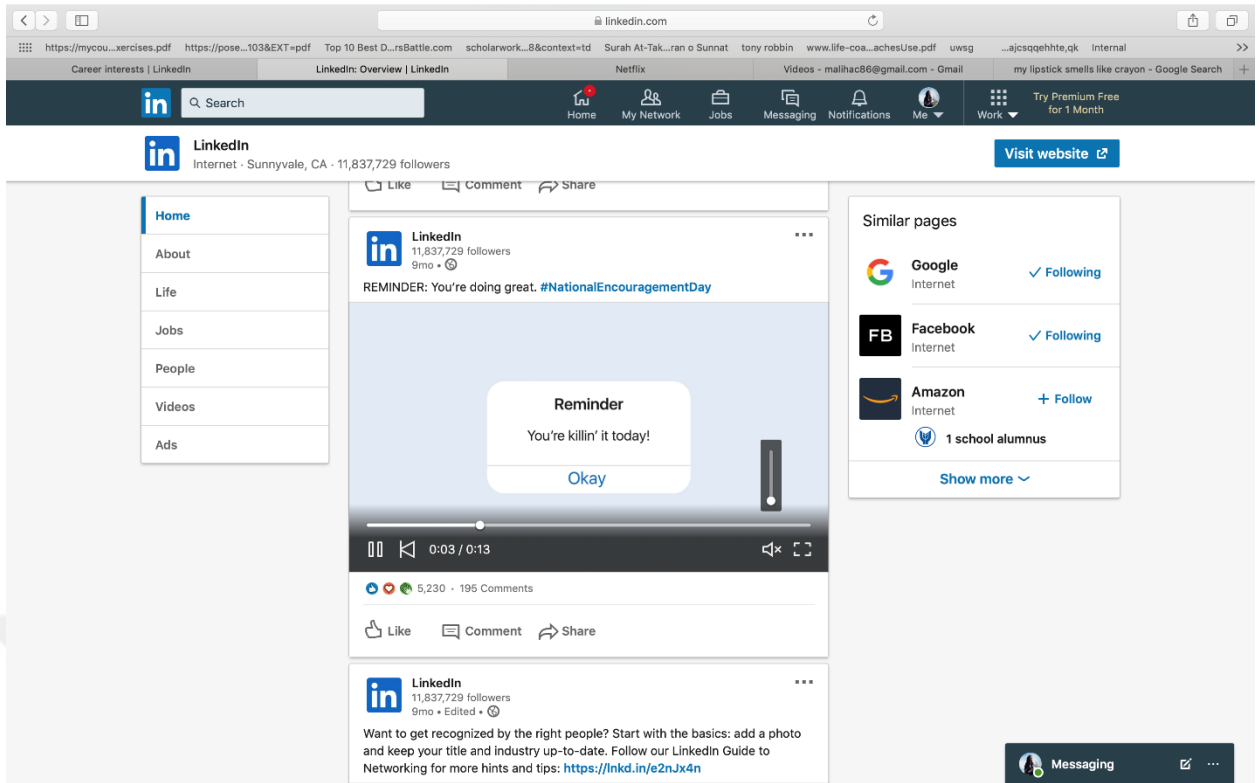


Figure A27: You are doing great. Source: <https://urlzs.com/5K8mf>

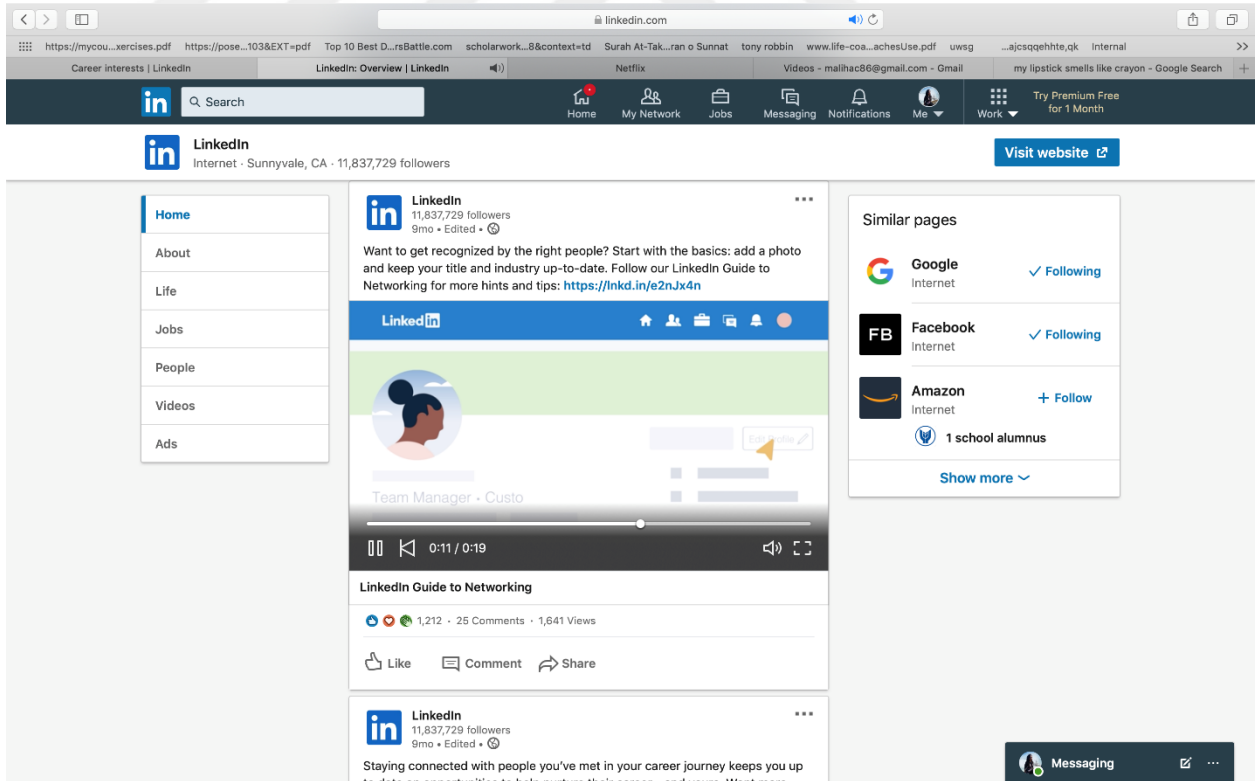


Figure – A28: Start with Basics. Source: <https://urlzs.com/ykzBi>

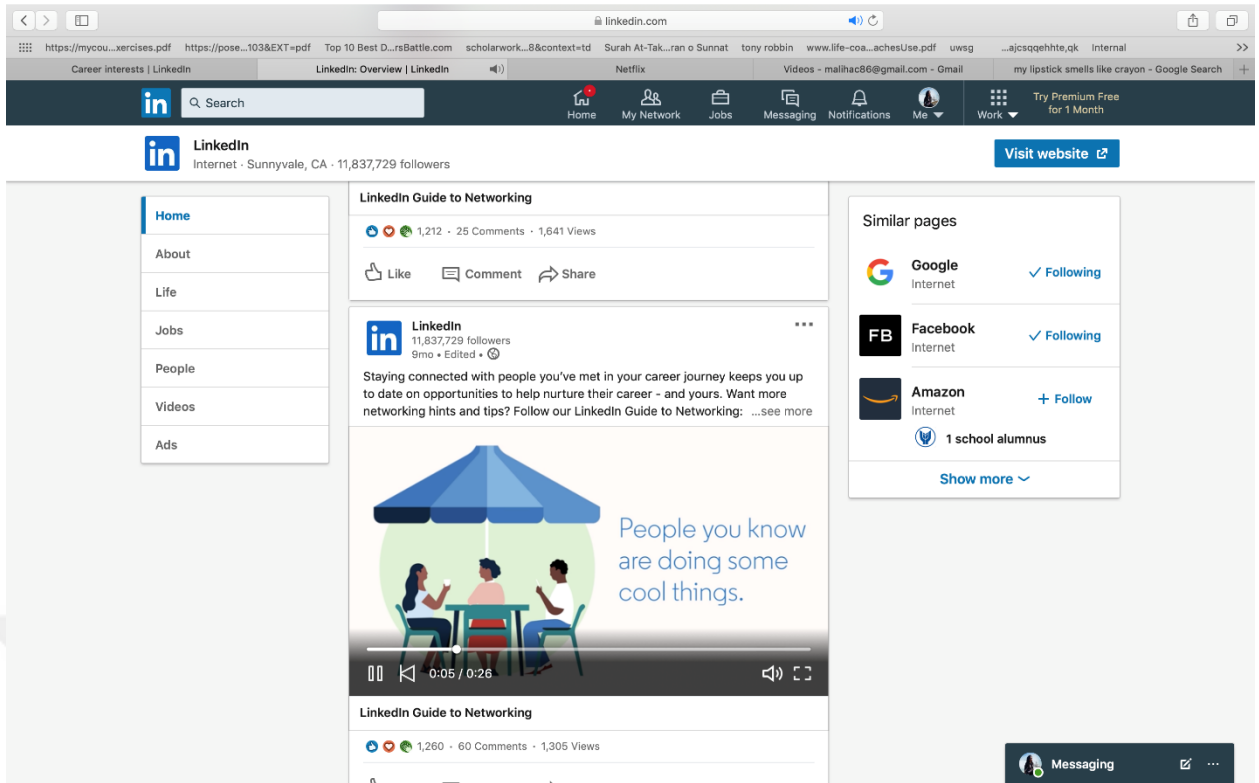


Figure – A29: People you know are doing some cool things. Source: <https://urlzs.com/772MJ>

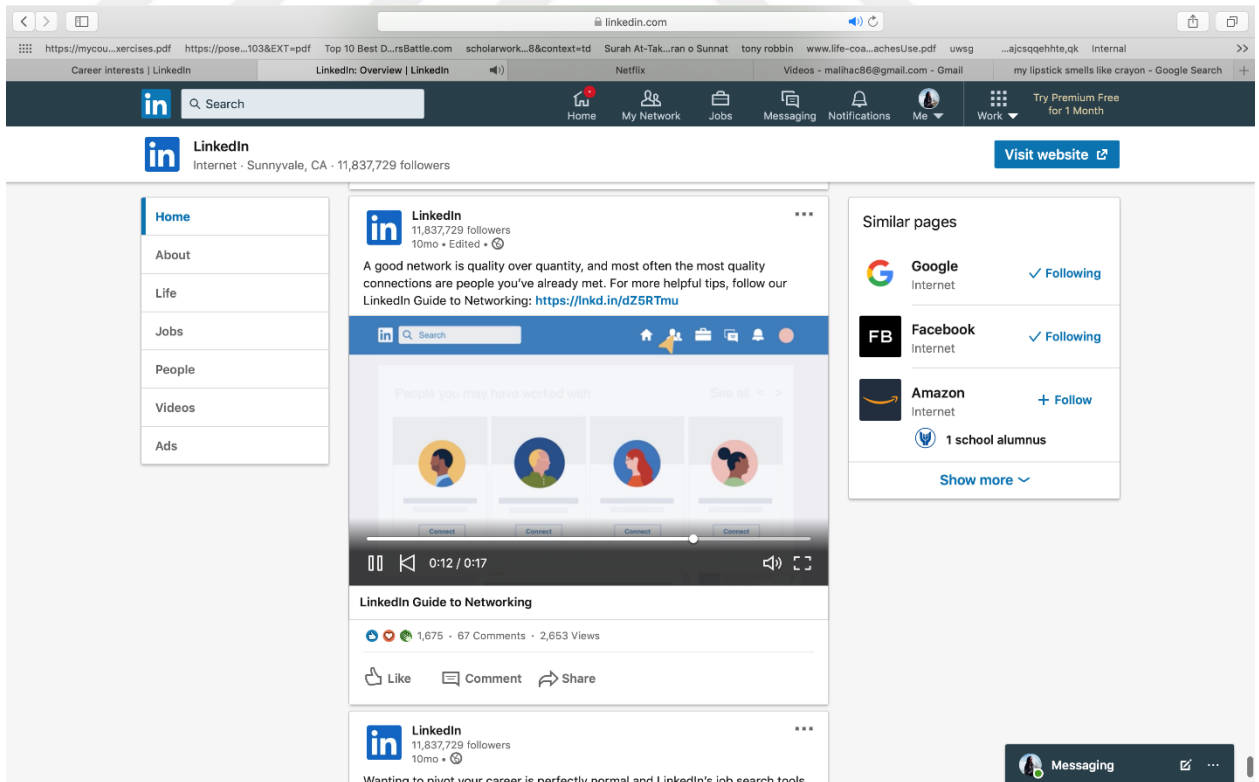


Figure – A30: Quality over Quantity. Source: <https://urlzs.com/gv9YJ>



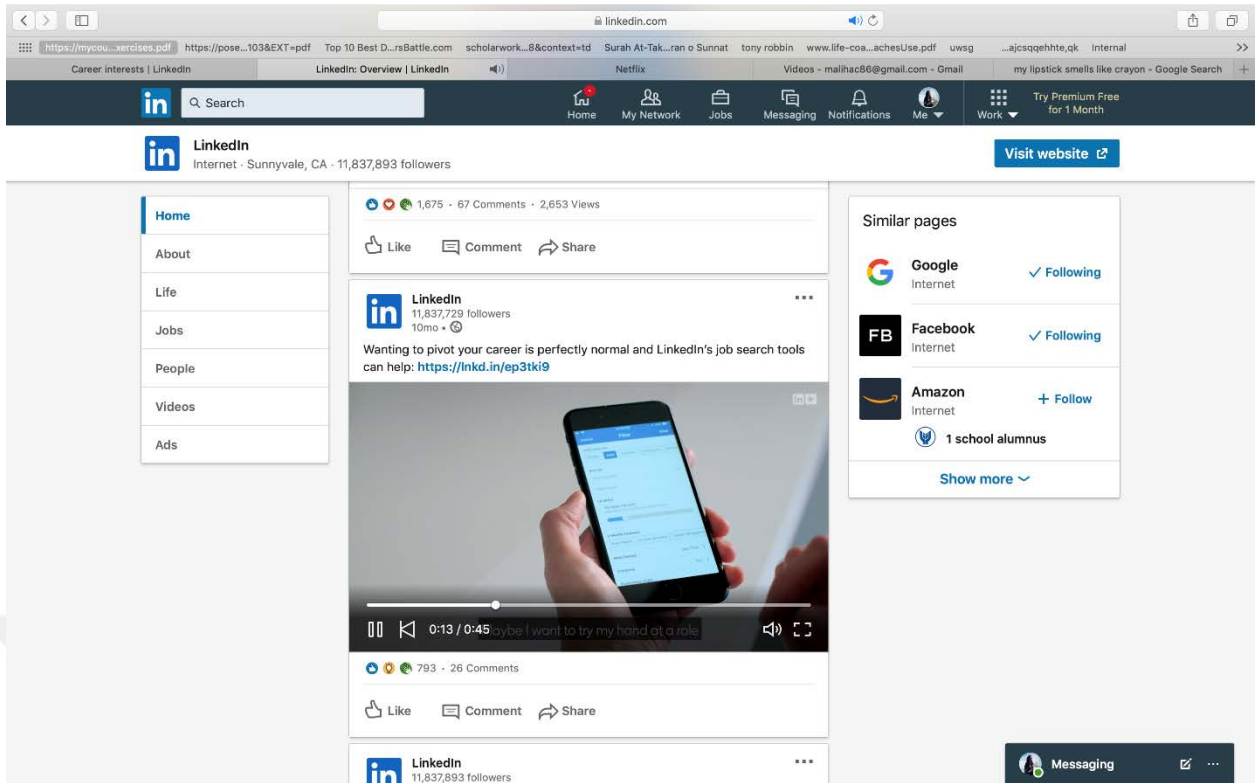


Figure – A31: LinkedIn job search tools. Source: <https://urlzs.com/eL76n>

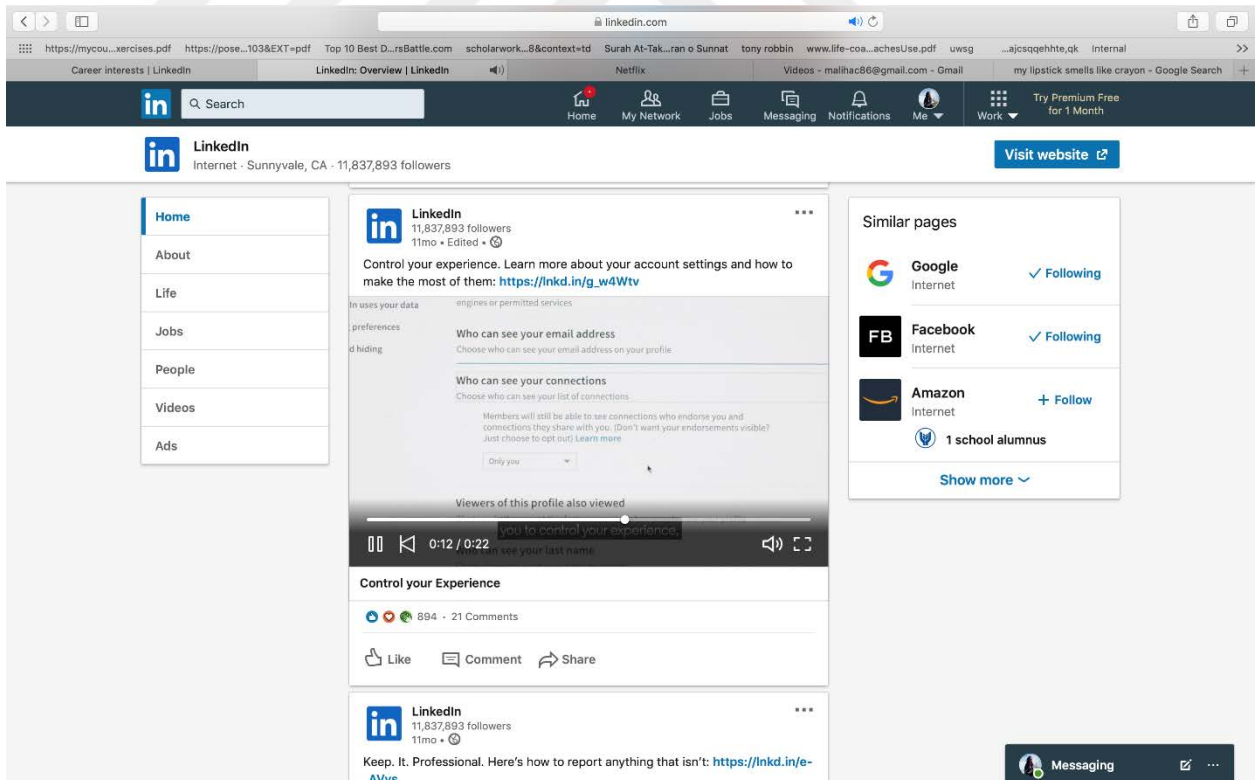


Figure – A32: Control your experience. Source: <https://urlzs.com/EQQ1E>

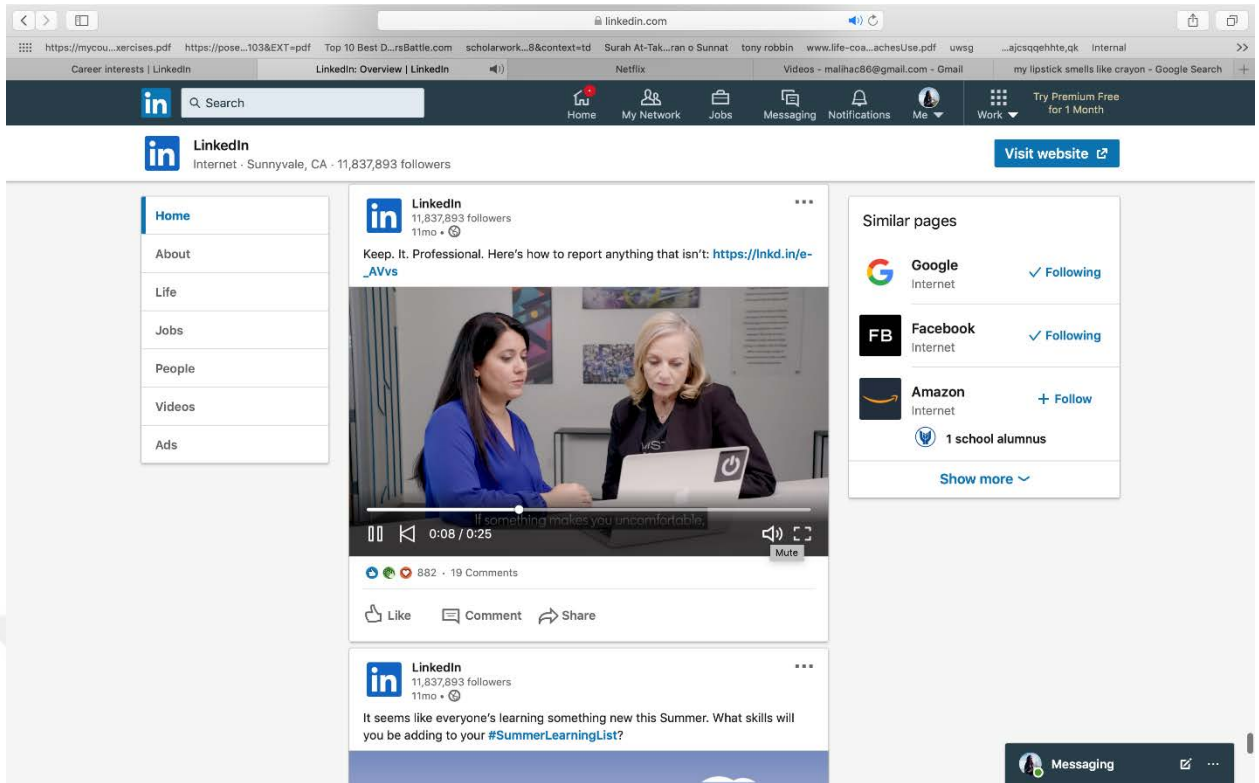


Figure – A33: Reporting. Source: <https://urlzs.com/VgMnL>

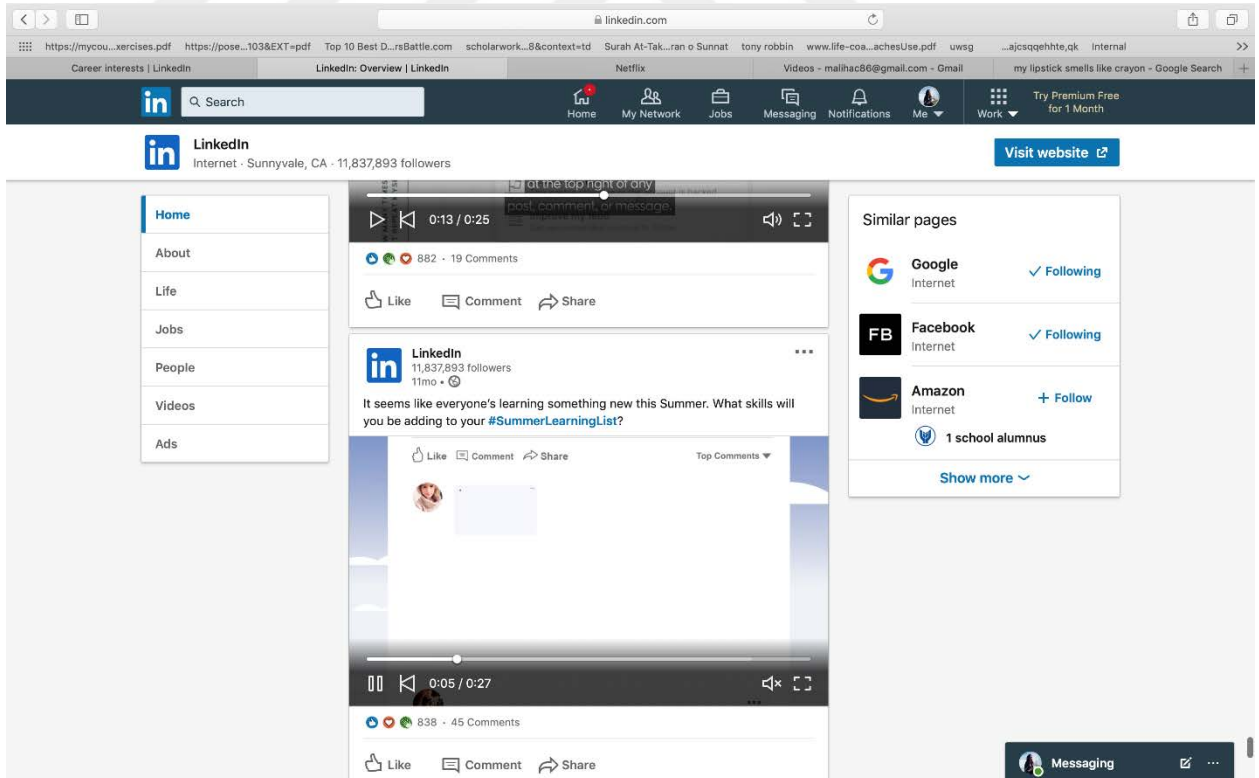


Figure – A34: Summer Learning List. Source: <https://urlzs.com/qRgvn>

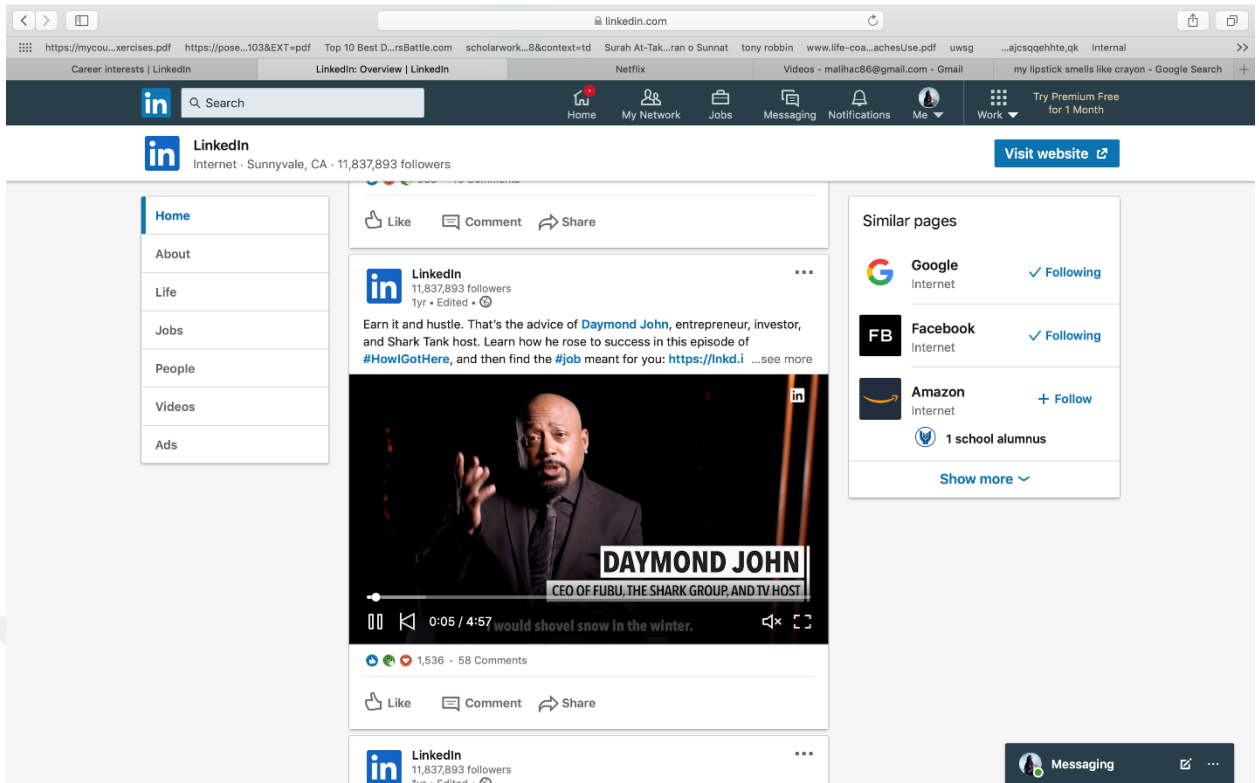


Figure – A35: Daymond John. Source: <https://urlzs.com/vw7YZ>

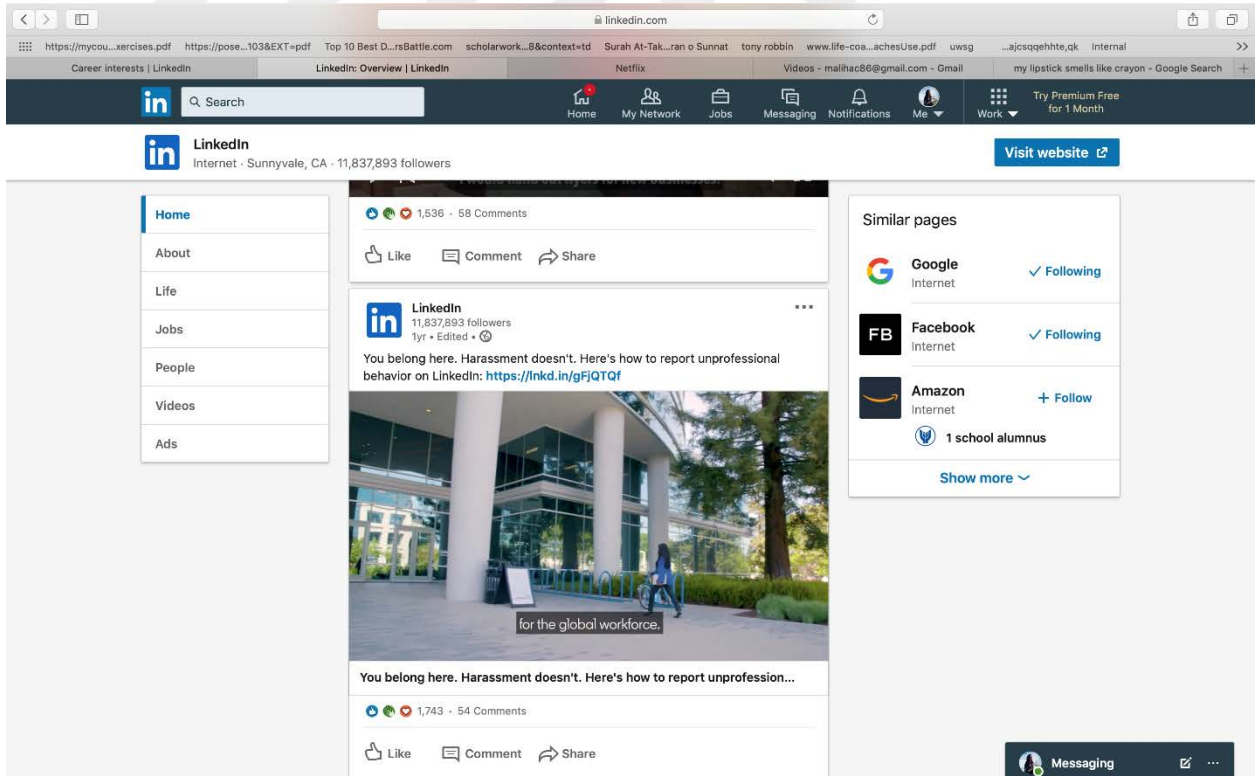


Figure – A36: Reporting unprofessional behaviour. Source: <https://urlzs.com/7hyUi>



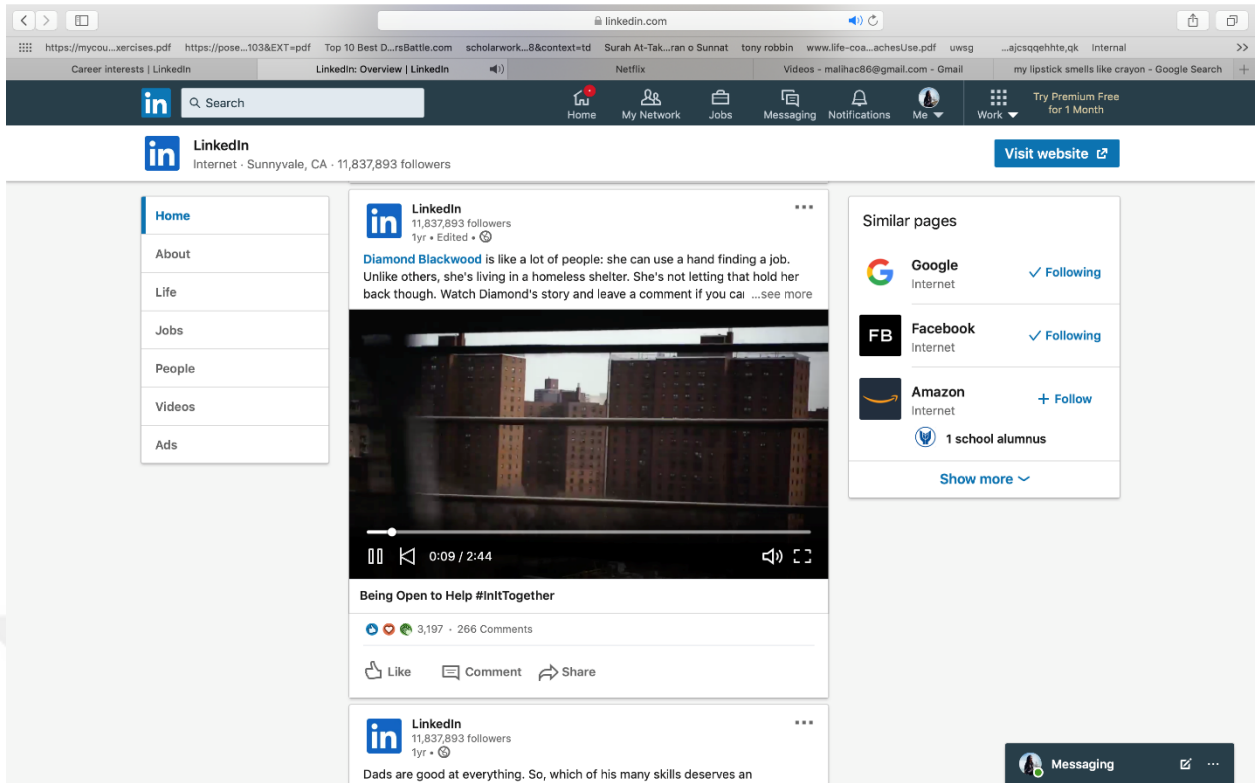


Figure – A37: Diamond Blackwood’s Story. Source: <https://urlzs.com/iwGYK>

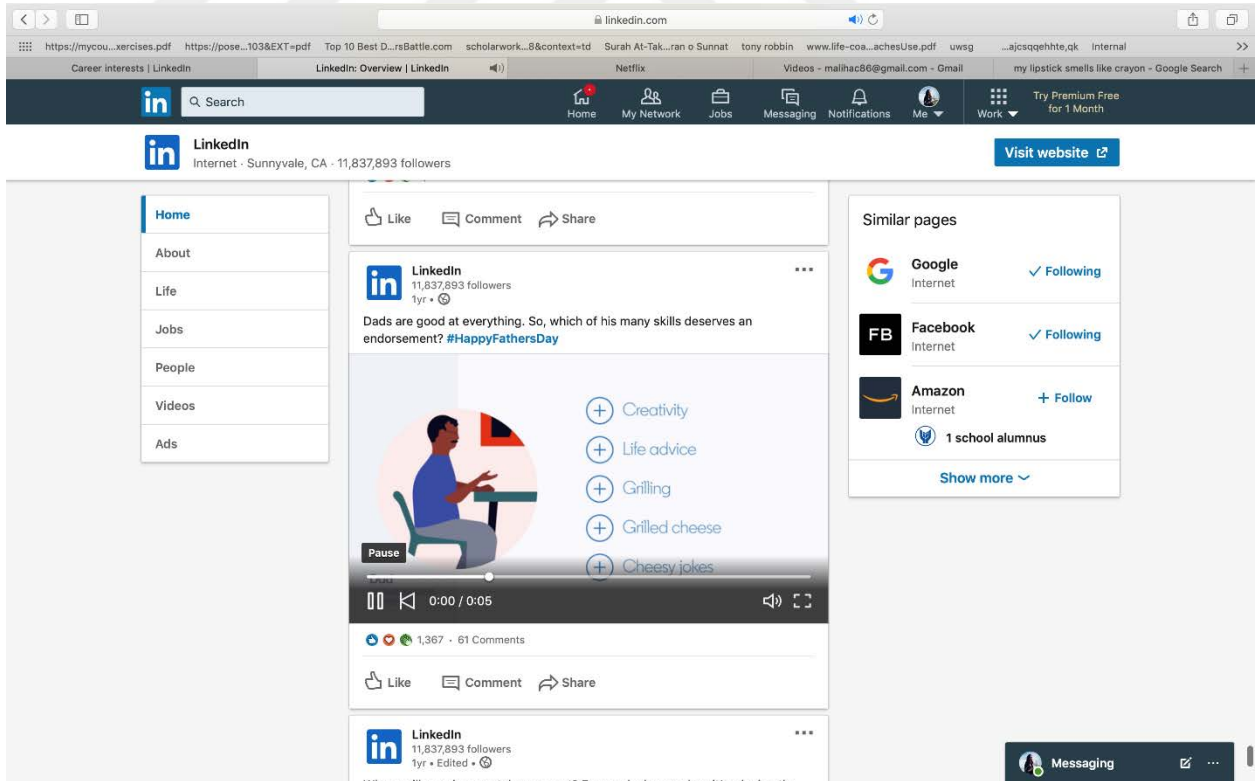


Figure – A38: Happy Father’s Day. Source: <https://urlzs.com/q9wvZ>

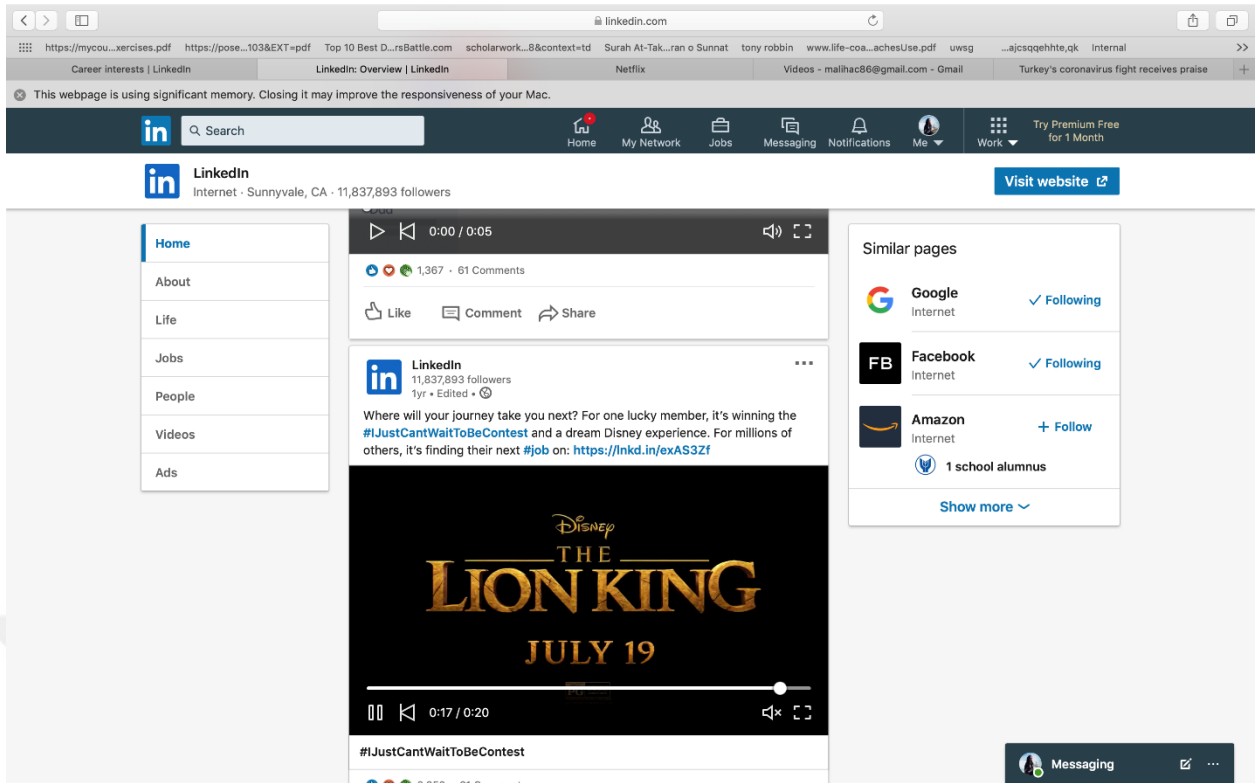


Figure – A39: Contest. Source: <https://bit.ly/3hBVHIm>

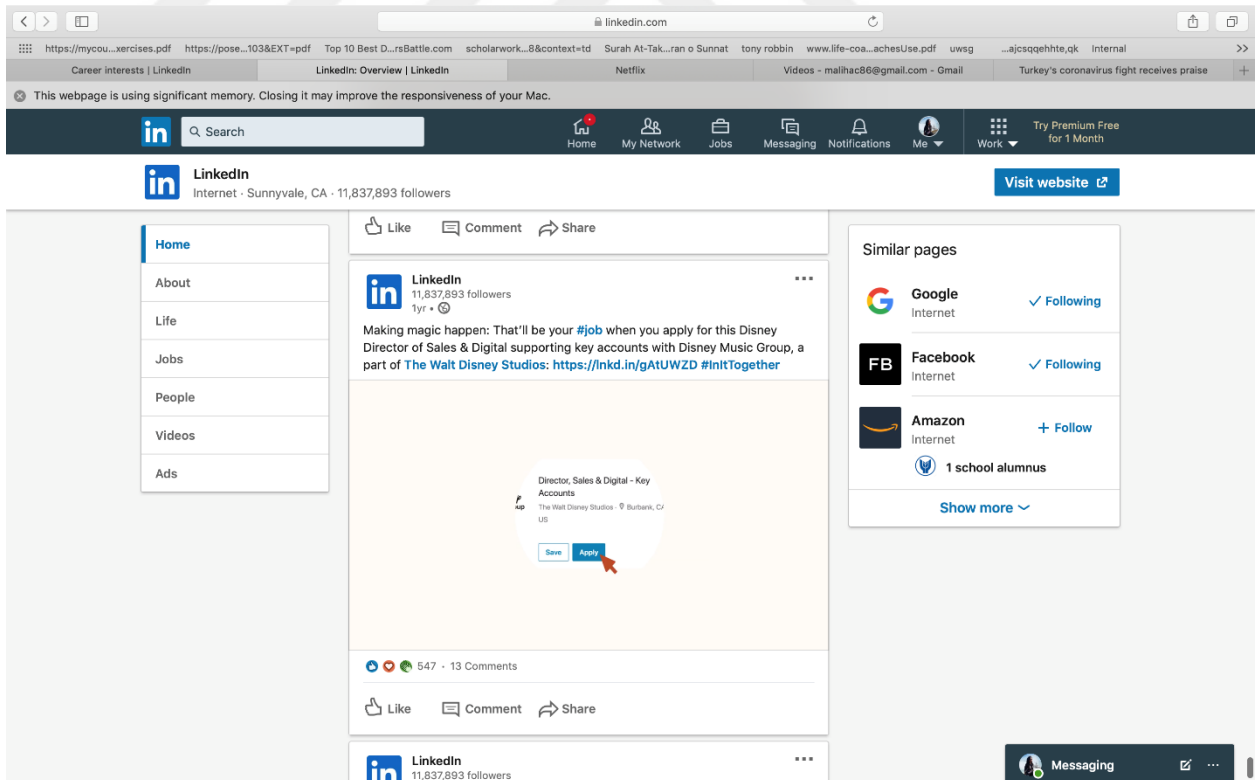


Figure – A40: Applying for Disney. Source: <https://bit.ly/3e55O6m>

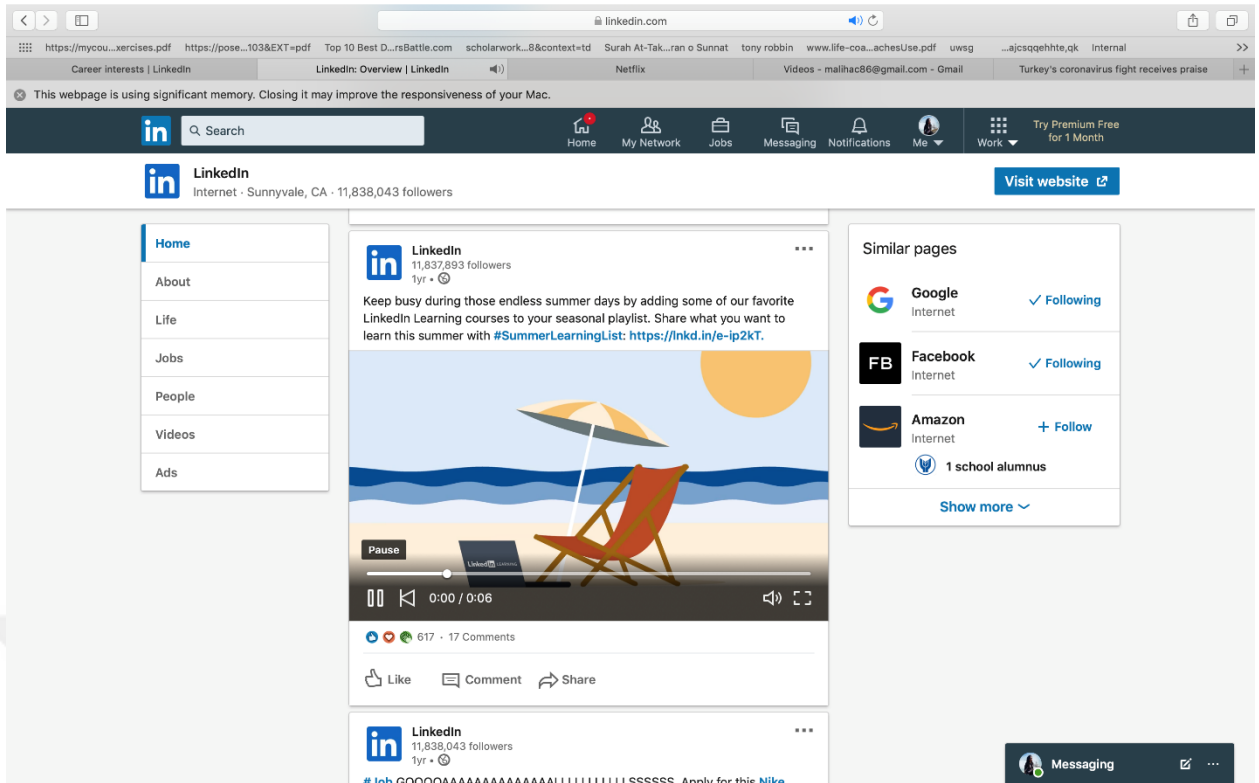


Figure – A41: Summer Learning Lists. Source: <https://urlzs.com/2s7oJ>

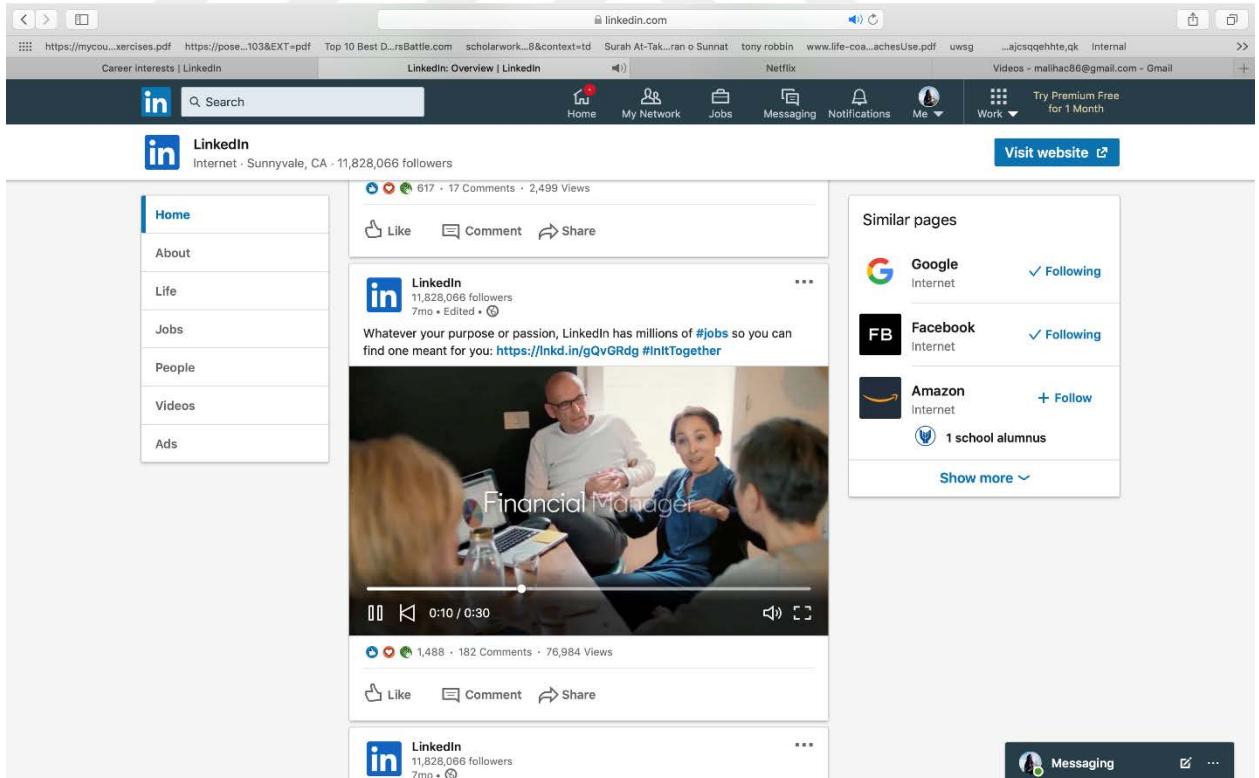


Figure – A42: LinkedIn Jobs. Source: <https://urlzs.com/pPqFs>

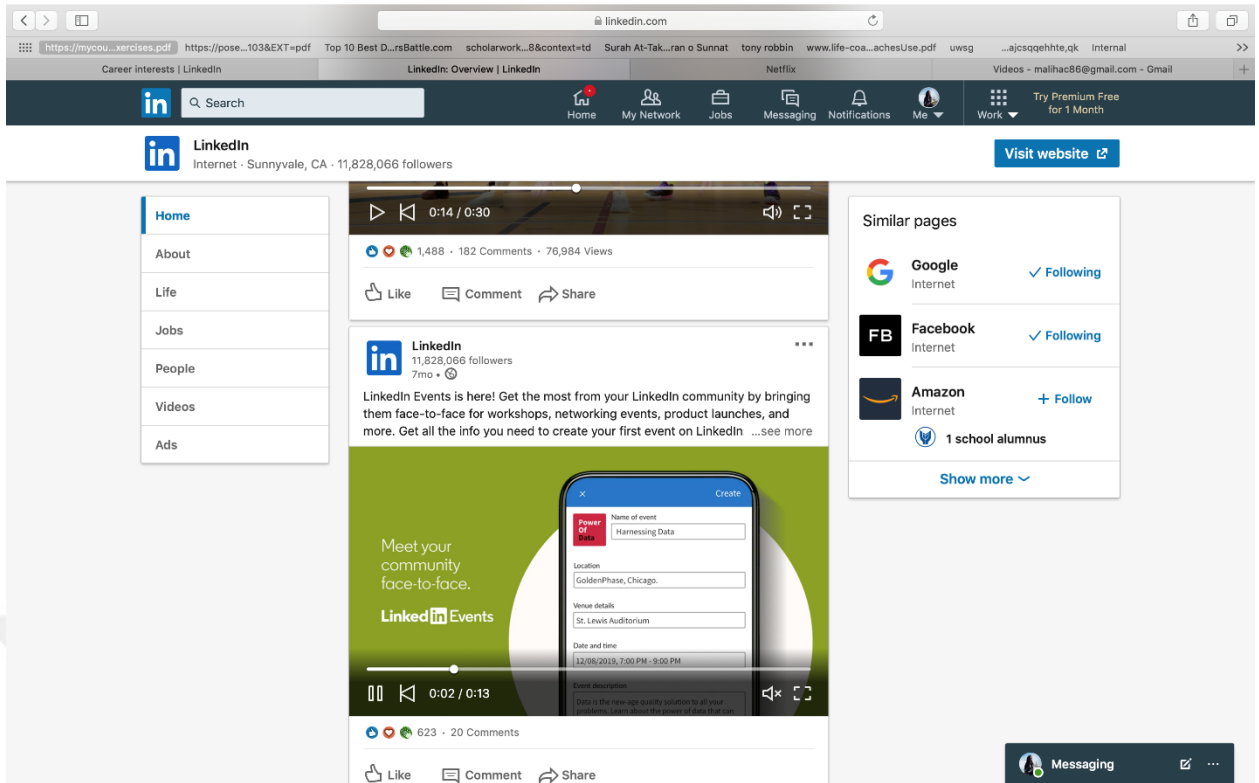


Figure - A43: LinkedIn Events. Source: <https://urlzs.com/rbQvg>

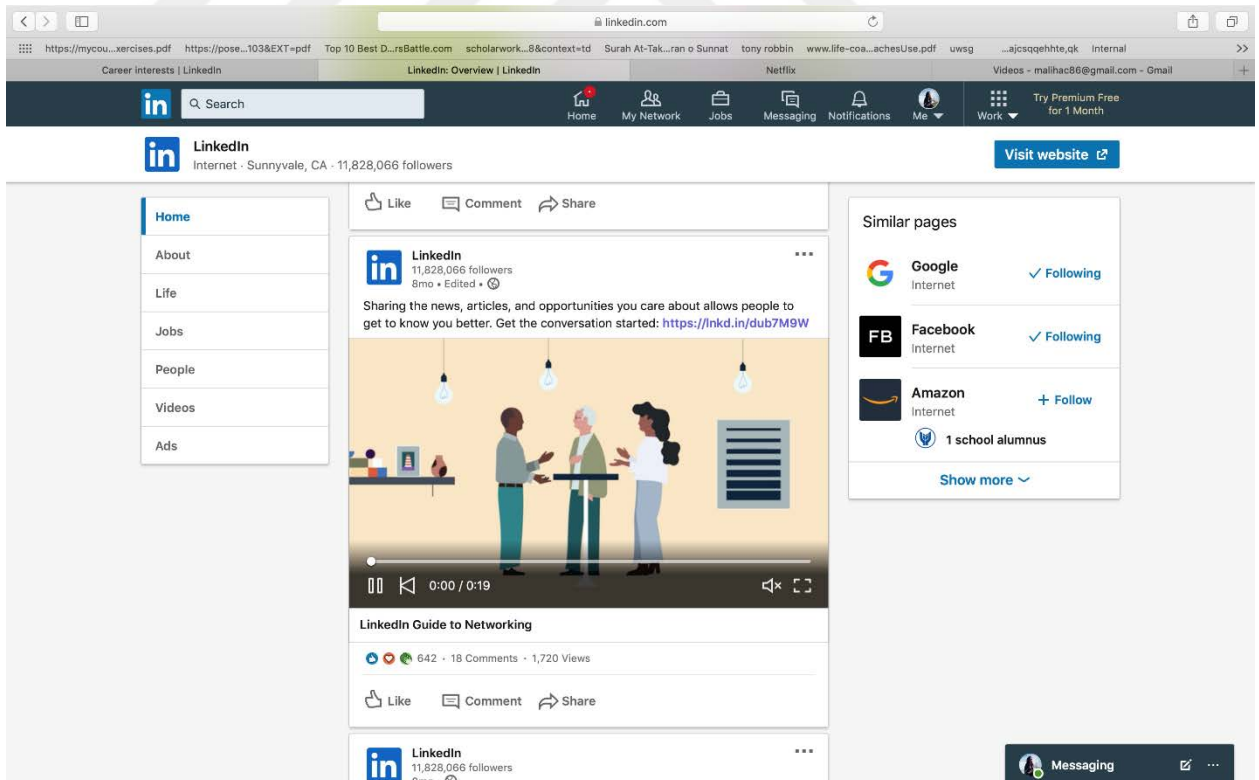


Figure - A44: Sharing the News, Articles, and Opportunities. Source: <https://urlzs.com/CSuti>

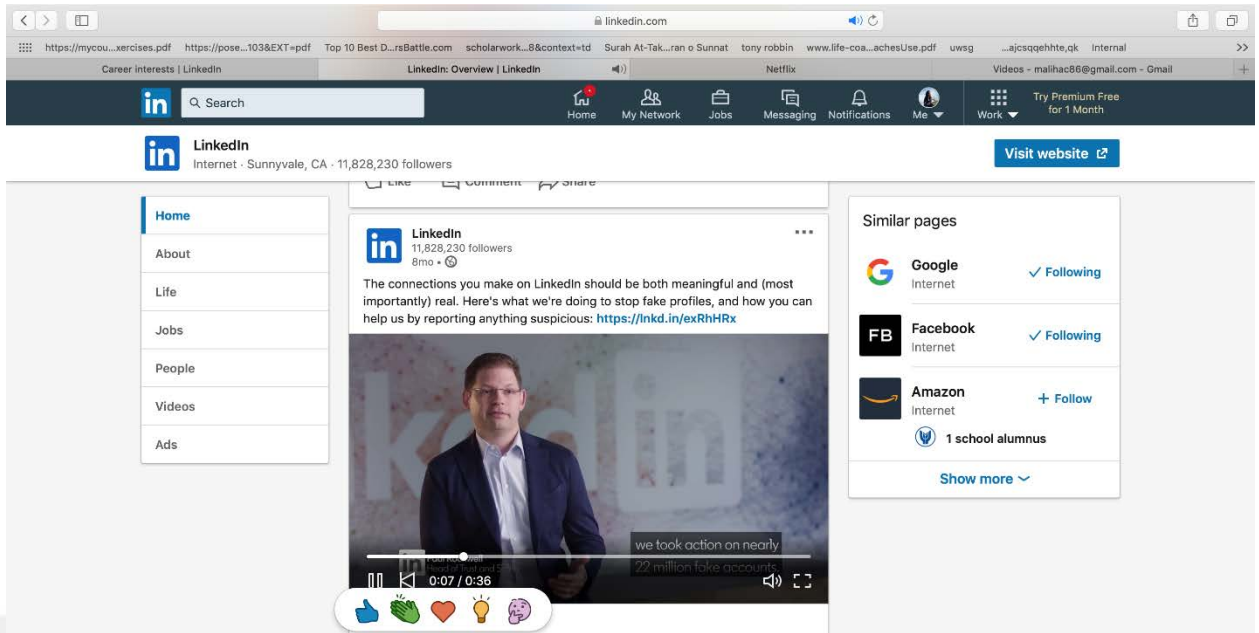


Figure – A45: Stopping Fake Profiles. Source: <https://urlzs.com/mcSH1>

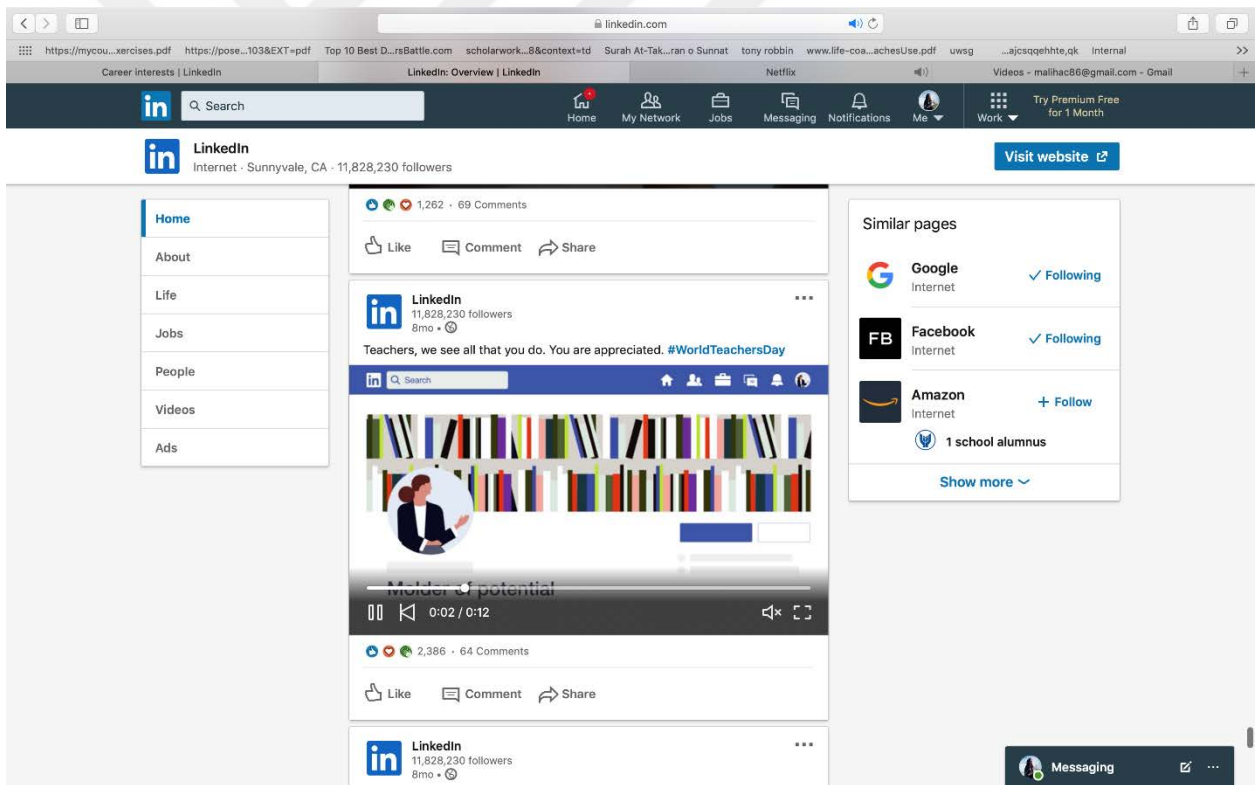


Figure – A46: World Teachers Day. Source: <https://urlzs.com/CeiPr>

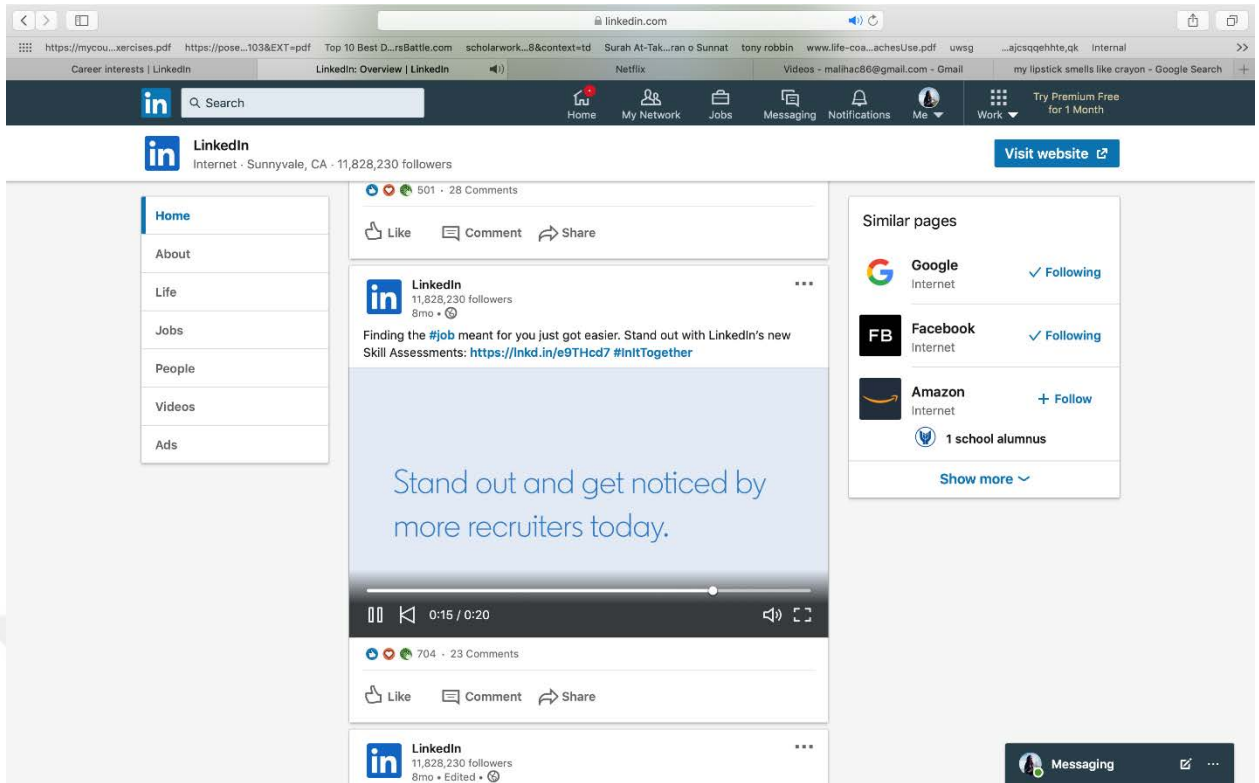


Figure – A47: LinkedIn Skill Assessments. Source: <https://urlzs.com/XYCEg>

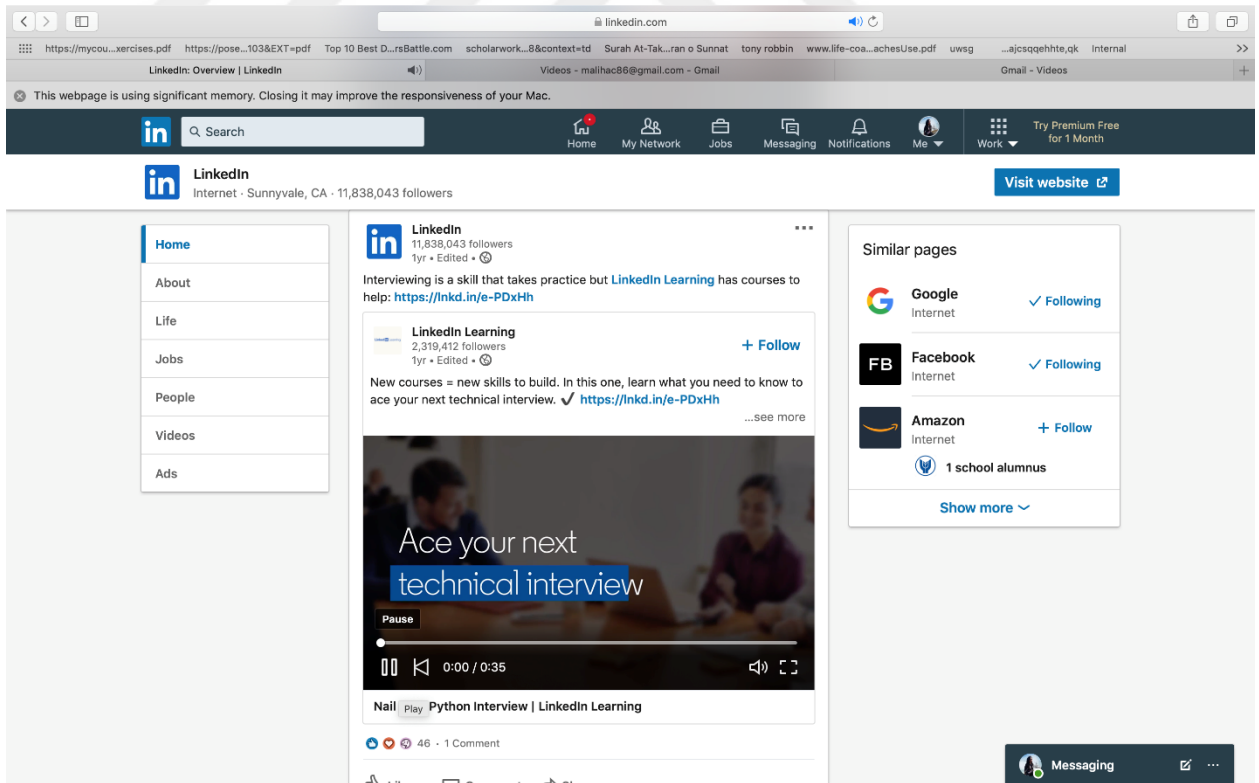


Figure – A48: Interviewing. Source: <https://urlzs.com/KhdWk>



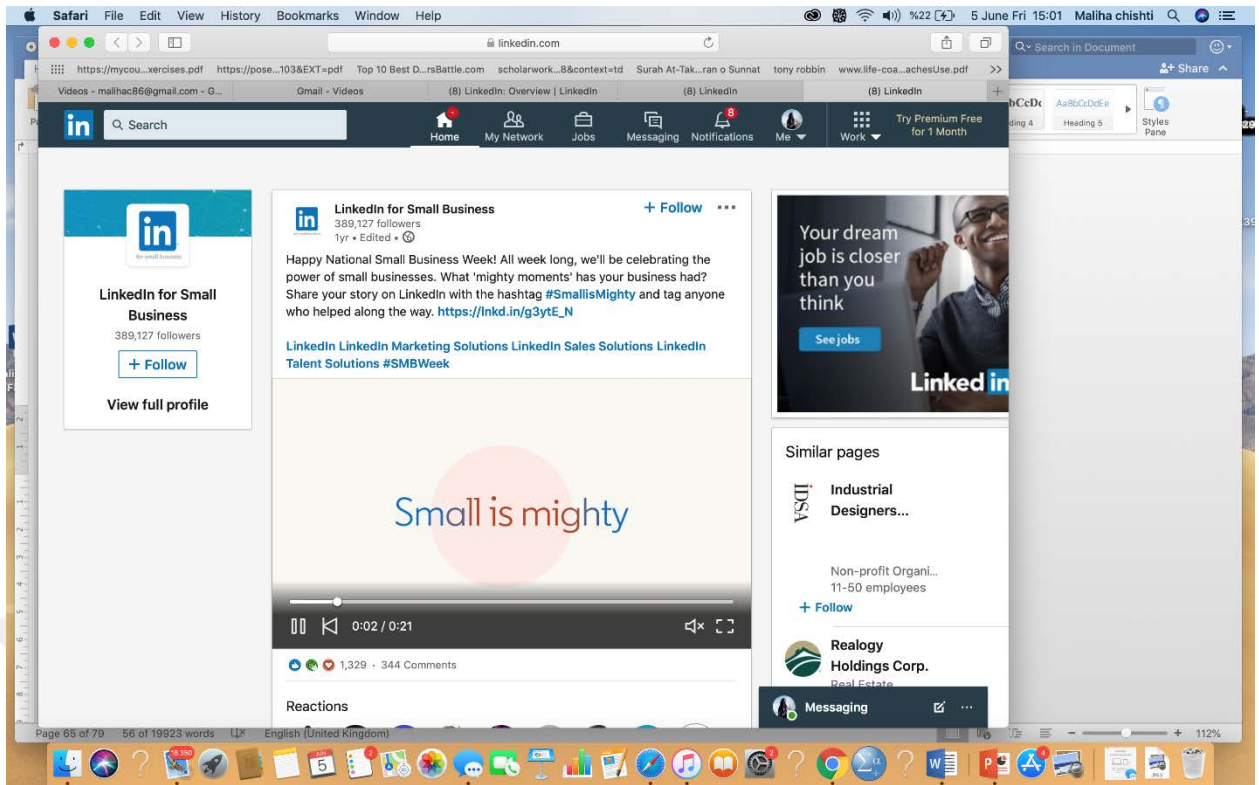


Figure – A49: National Small Business Week. Source: <https://bit.ly/2B9jBde>

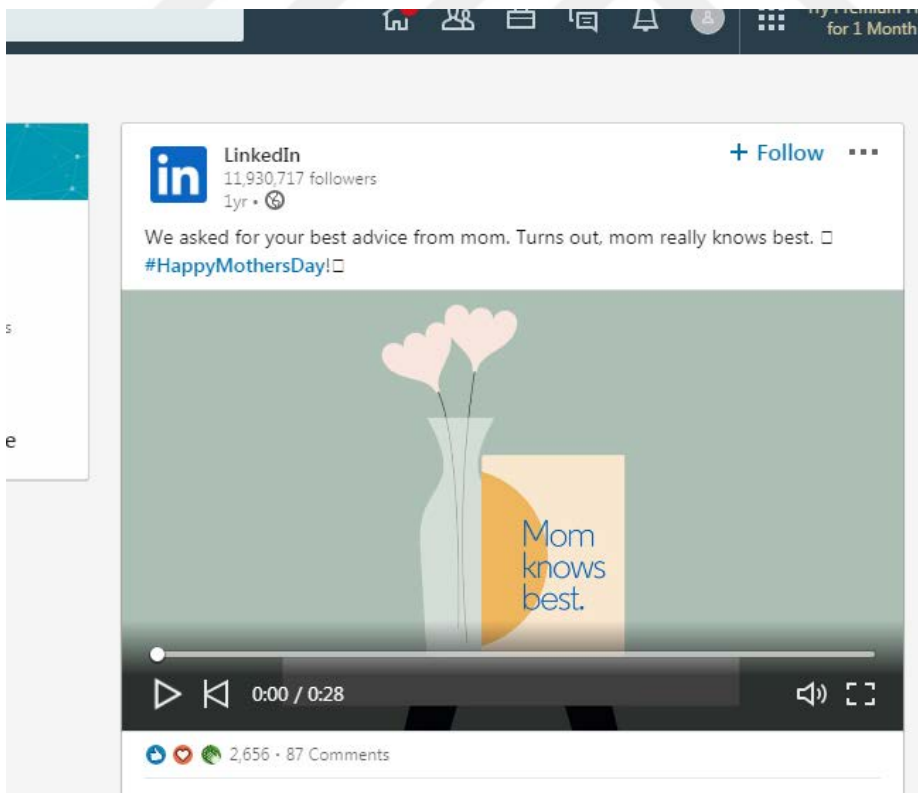
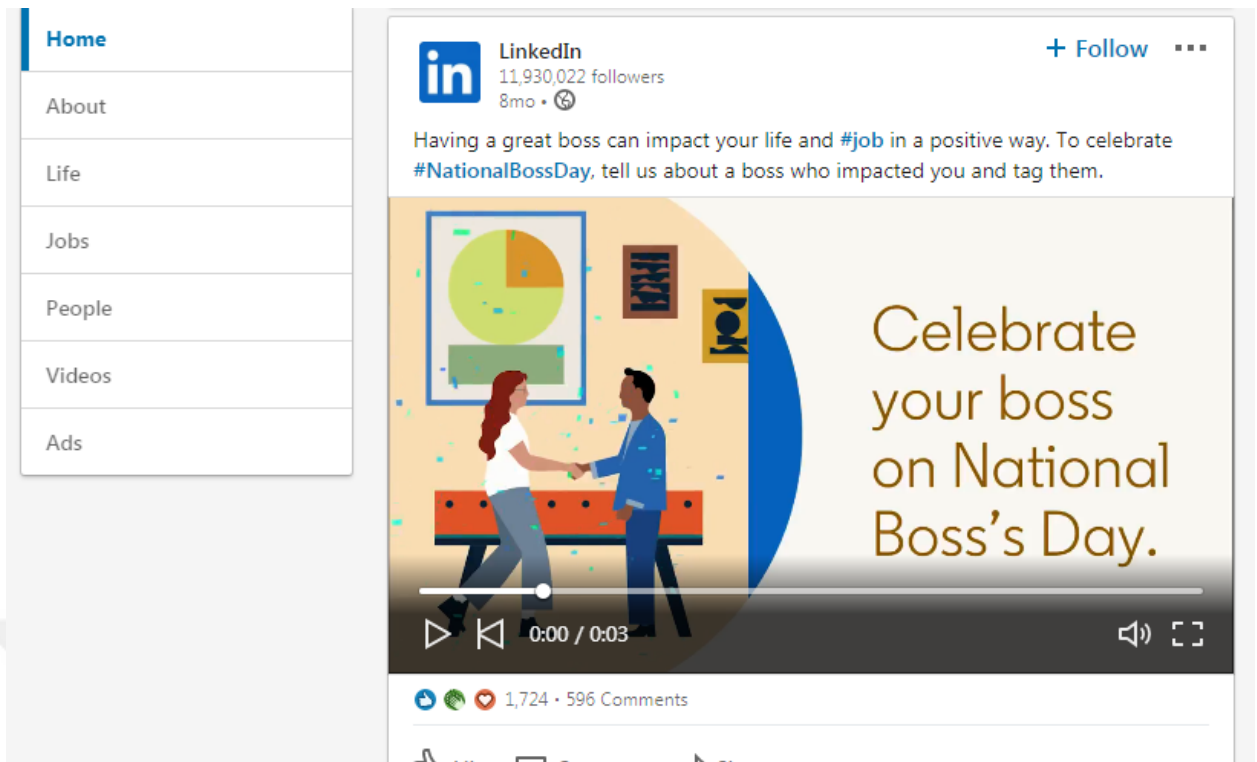
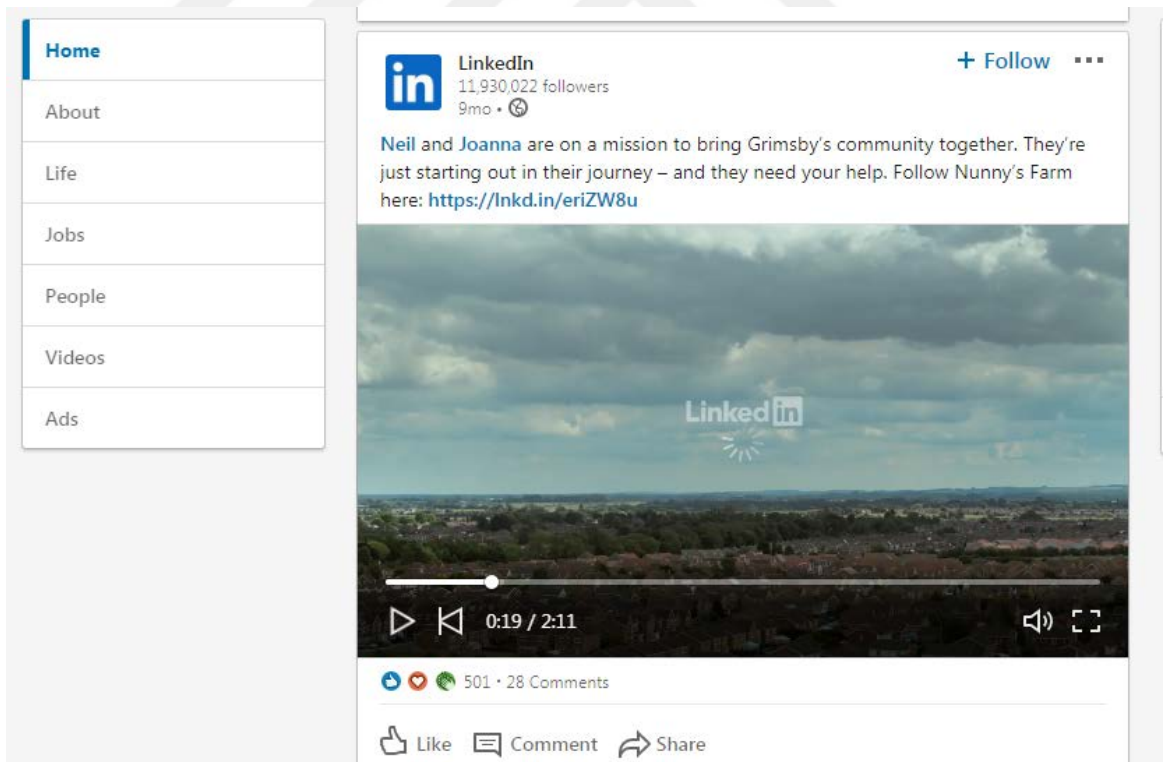


Figure – A50: Advice from Mom. Source: <https://urlzs.com/82Pfc>



**Figure – A51: National Boss Day.** Source: <https://urlzs.com/JQSAs>



**Figure – A52: Grimsby's Community.** Source: <https://urlzs.com/cyr7Z>



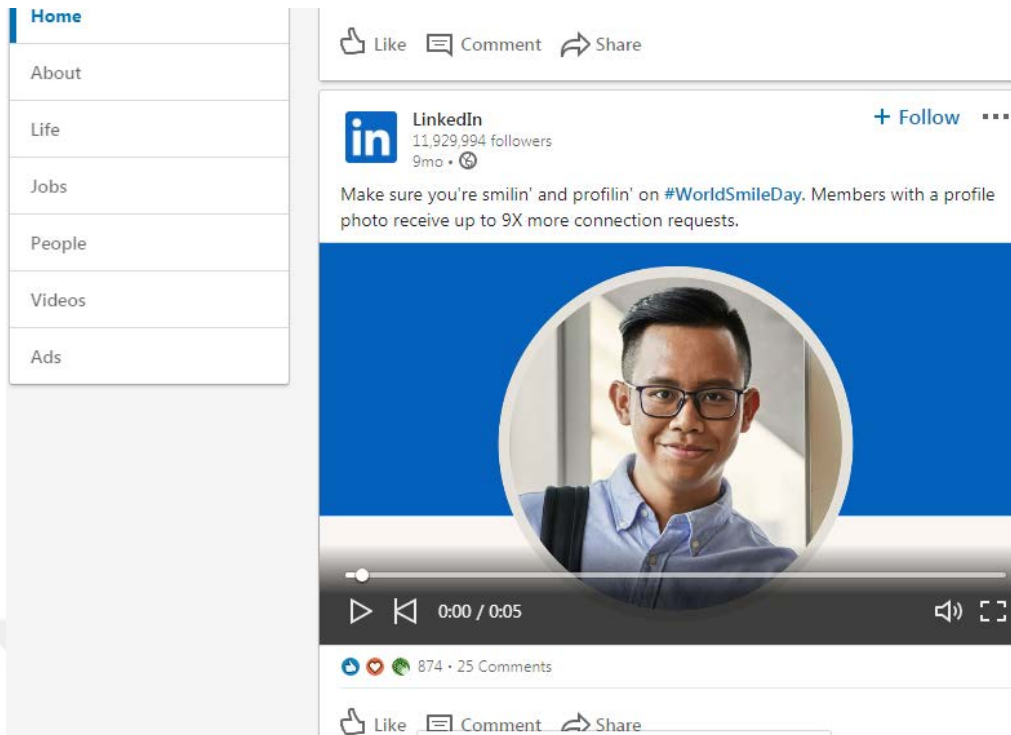


Figure – A53: World Smile Day. Source: <https://urlzs.com/QVDXY>

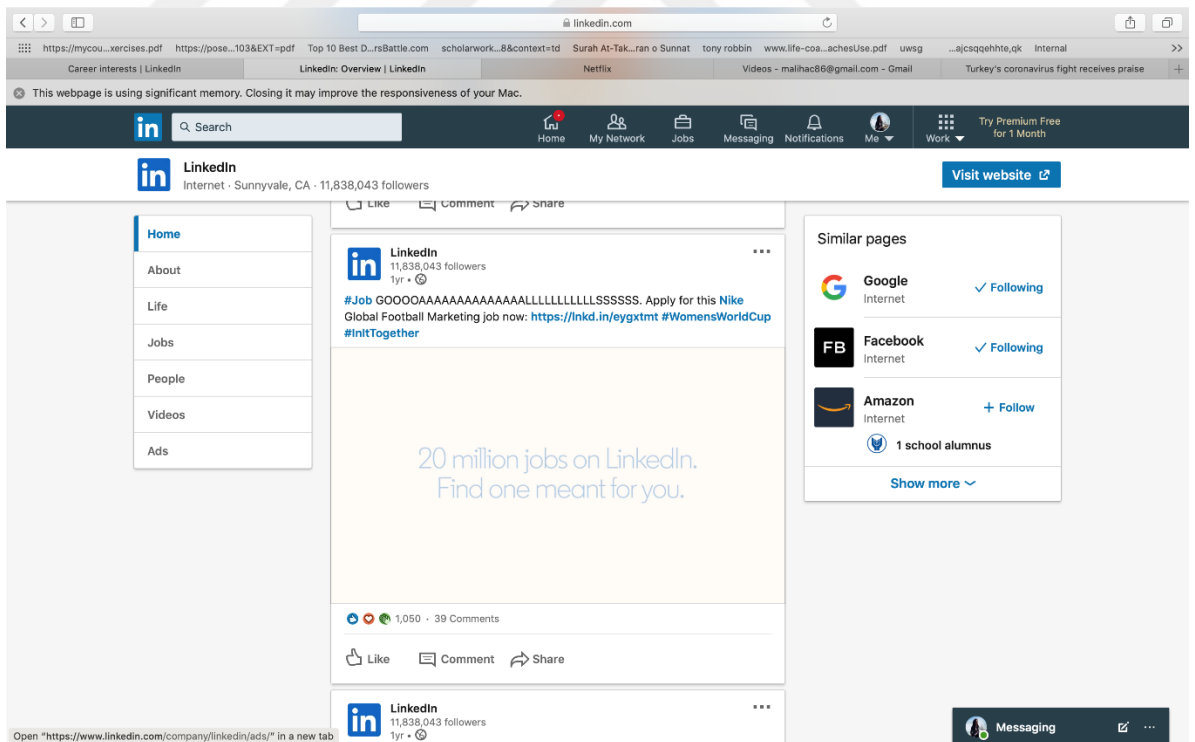


Figure – A54: Nike Global Football Marketing Job. Source: <https://bit.ly/2B7gWkm>

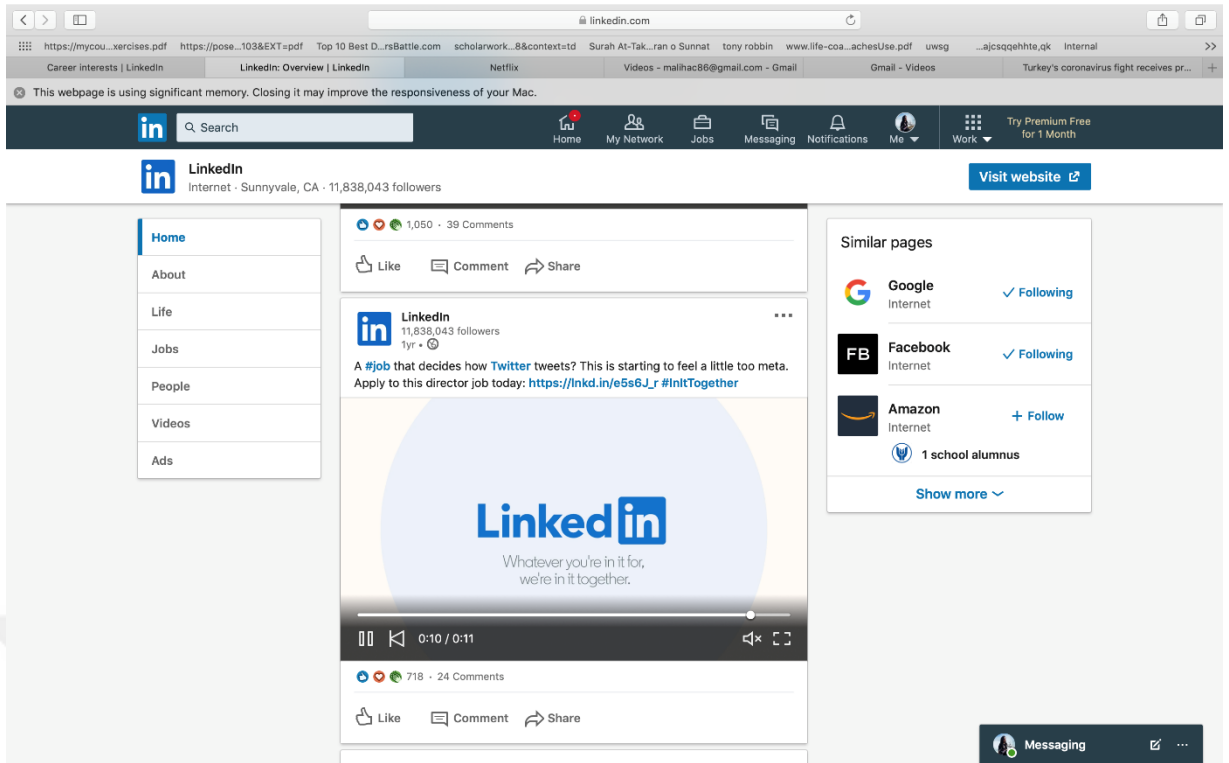


Figure – A55: Director Job. Source: <https://bit.ly/37vEYSs>

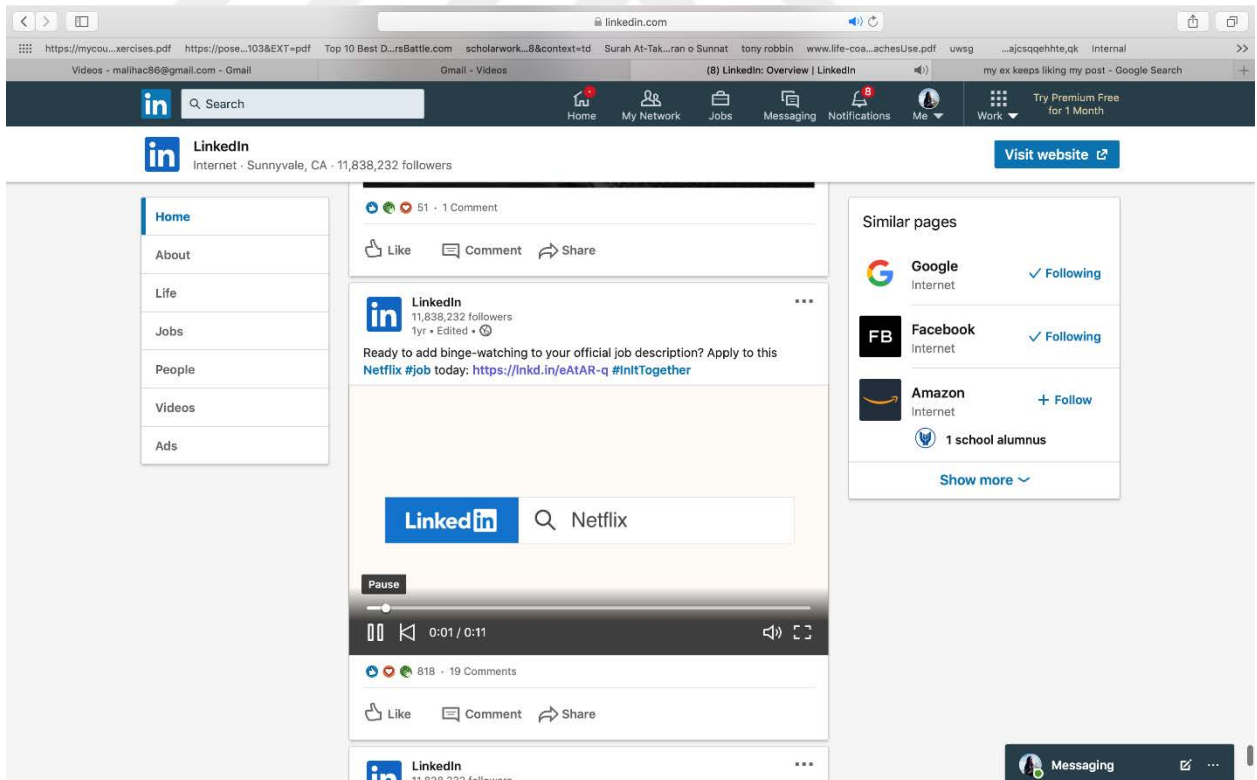


Figure – A56: Netflix Job. Source: <https://bit.ly/3d1YUx2>

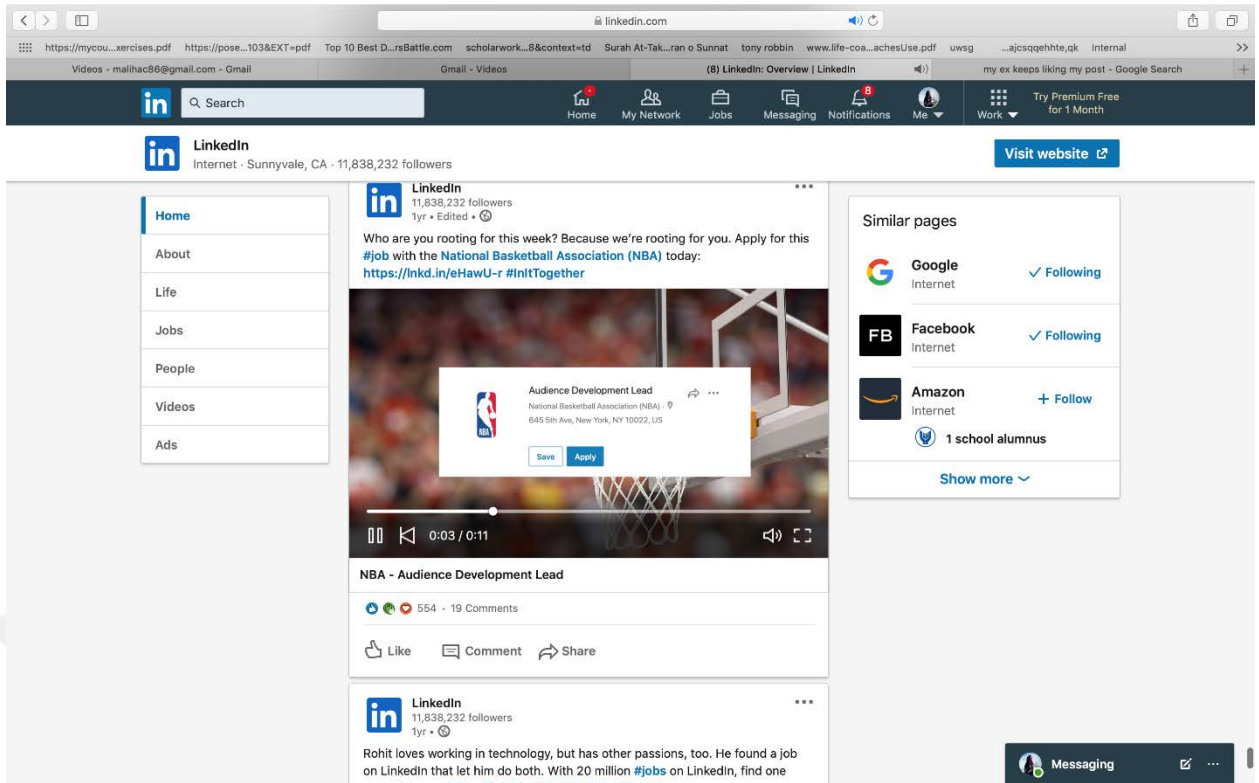


Figure – A57: NBA Job. Source: <https://bit.ly/2Y1aaG0>

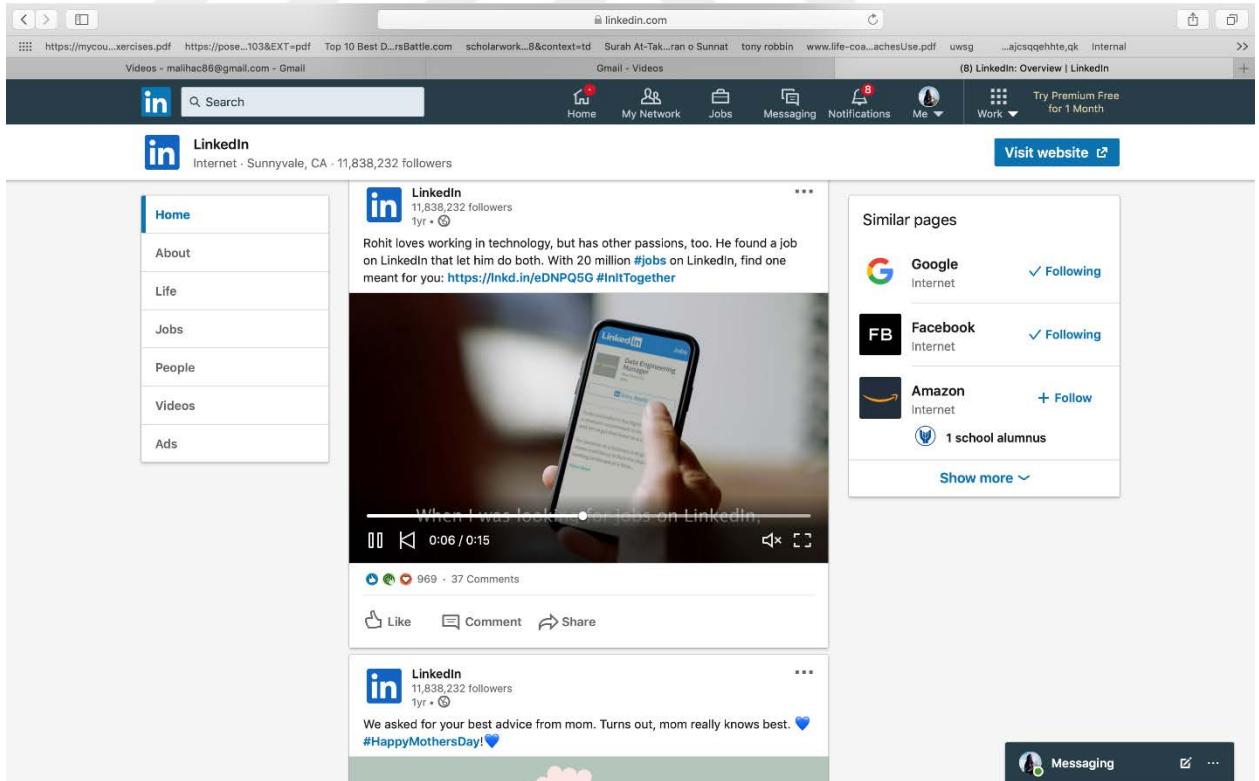


Figure – A58: Find Job on LinkedIn. Source: <https://bit.ly/2UGJRMr>

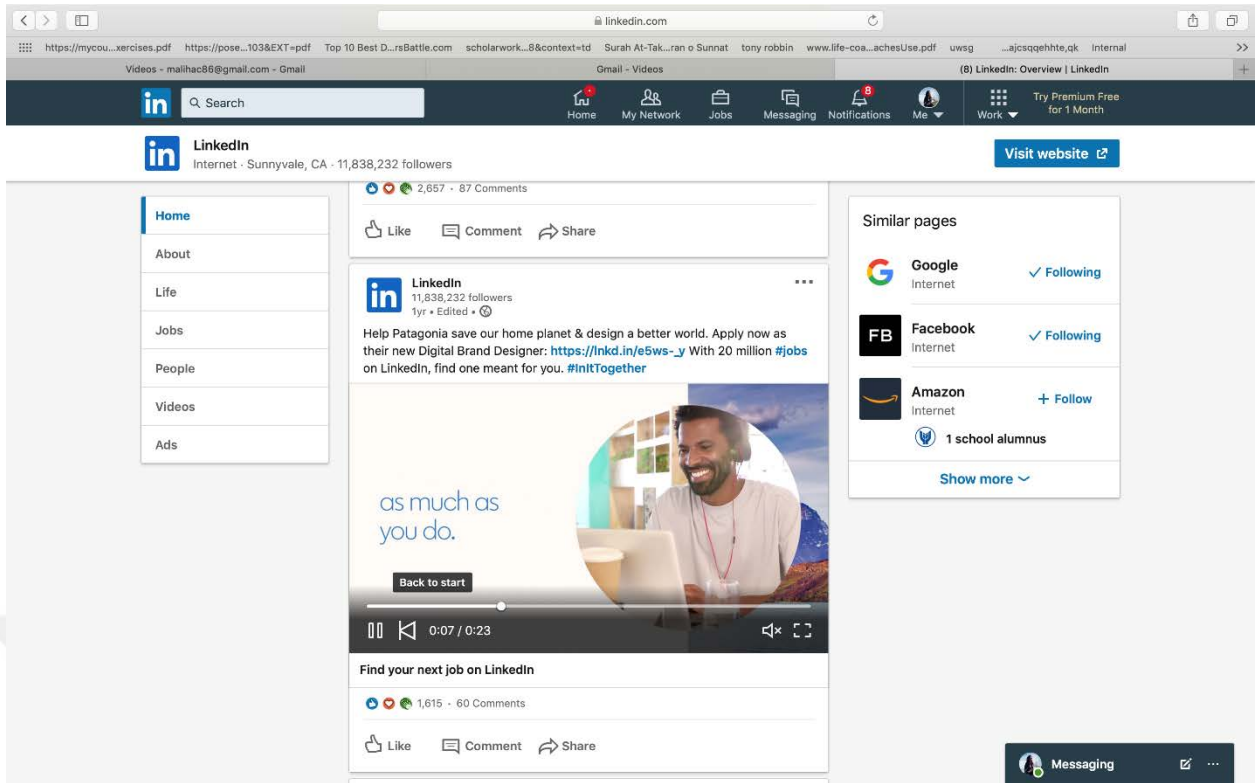


Figure – A59: Digital Brand Designer Job. Source: <https://bit.ly/2MUY8Y7>

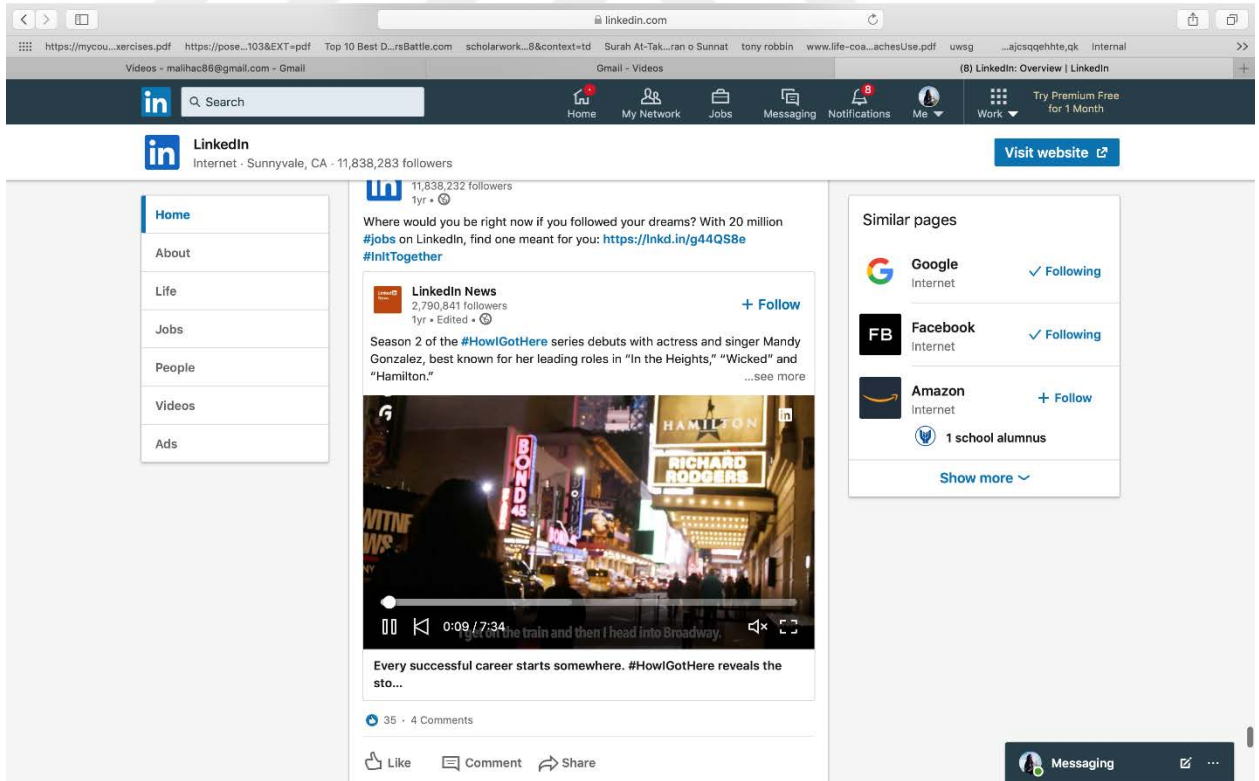


Figure – A60: Jobs at LinkedIn. Source: <https://bit.ly/2XZEC30>