

TO: [REDACTED]
FROM: Kevin Folliard
DATE: 10-5-2016
SUBJECT: #91600, Synthesis Essay for WRTG 391



Congratulations on your progress in writing this assignment for WRTG 391. Overall, your synthesis paper is off to a good start. You've got the right idea in how you have broken down your discussion and exploration of the research. The research is well-integrated and you have insightful ideas to present about the topic.

My name is **Kevin**, and it's my pleasure to work with you today. **Hold CTRL and click on the video to the right** for an extended welcome message!



Before we begin, let's review a few important guidelines and resources:

- Students may submit one request for advice (either written feedback or live online advising) every 48 hours.
- You are welcome to come to the Effective Writing Center for help at any stage in the writing process, whether you are just getting started an assignment or want feedback on a rough draft.
- Resources to help you revise your writing assignment are hyperlinked within this letter and in the [More Resources](#) section at the end.
- Before reading this advice, please review the writing that you submitted. We've pasted your draft at the end of this advice letter.

At the EWC we are attentive readers who help you improve as a writer by explaining and modeling effective writing skills. For a more detailed discussion of our services, please [click this link and visit the Effective Writing Center web site](#).

Are You Interested in More Help?

Schedule a Live Advising Appointment!

- The Effective Writing Center also offers live, online advising via teleconference. You can submit an appointment request through the [MyUMUC portal](#).

Attend an Online Workshop!

- The EWC hosts monthly live workshops in Google Hangouts. Our [complete calendar is available here](#).

Join the Google+ Community!

- Join the UMUC Effective Writing Center [Google+ community](#). Here, all UMUC students and faculty members can find resources to help students improve their writing. Whether you are a student who needs your paper reviewed or a faculty member who would like us to provide a guest lecture on writing for your class, the EWC is here to help. [Click here to join!](#)

Advice Overview

We will discuss the following strategies that can help you to strengthen your paper:

- I will offer tips on **introductions and thesis statements**. I think a stronger, more unified thesis at the end of your opening paragraph will help to build a stronger foundation for your discussion.
- I will offer tips on **APA formatting and citations**.
- I will also review tips on **proofreading for grammar, mechanics, and punctuation**.

Throughout my advice, you will notice that I copy/paste **text from your paper highlighted in yellow**, and may then show **corrections or suggested alterations in green**.

Although we will cover revisions and rules, **your professor's instructions always take precedence over any advice you receive from the EWC**. If you have any questions, refer to your assignment guidelines first and don't hesitate to ask your professor to clarify any unanswered questions.

Assignment Management

Thank you for submitting the assignment requirements. Our goal is to ensure that your paper meets your professor's assignment requirements as closely as possible, so this information is a big help!

Below is a table with an overview of your assignment, what you have completed, and what you need to fulfill the requirements.

Assignment Requires	You Have	You Need
2000-2500 word synthesis essay/literature review about technological transformation	You have a 2000 word paper that explores a body of literature on the impact of mobile devices on personal security.	This is a great topic, and you do a nice job exploring it. My main tip is to strengthen your thesis for your final draft, and proofread carefully for formatting, grammar, and mechanics. 😊
APA Citations and Formatting	Your citations are off to a good start, but I see some formatting errors.	Proofread carefully for in-text citations or references page citations with errors. I will review APA in full below and point out some examples.

Thesis & Organization

Goals:

- Articulate your thesis, argument, main idea, and/or purpose clearly.
- Organize your document or presentation in a manner that promotes understanding.

Overall, your paper has a good organizational structure. Your discussion is arranged logically, and you have clear, distinct sub-topics and section headers. Let's review a few pointers on thesis statements and intros, and I'll offer tips on how you might build a stronger, more impactful thesis statement. 😊

THESIS:

A **thesis statement** is a one sentence declaration that shows us what your paper is about, and more importantly what it seeks to prove. Another, even simpler way to think about it is this:

Your **thesis** = the **topic** of your paper + **your position** on it!

Check out [this video](#) (hold control and click the link) on forming a thesis statement. Sometimes creating a thesis can sound intimidating, but at the end of the day all you are doing is expressing your position on the topic of your paper in a clear concise manner.

When writing persuasive papers, the more argumentative your thesis is, the better it is. The more declarative or matter of fact it is, the weaker it is. For example:

Smoking is an unhealthy and addictive habit.

This is a **weak thesis** because it is generally accepted that smoking is both unhealthy and addictive. It's not making a very strong argument because it is so easy to prove.

The tobacco industry will collapse because future generations will be more informed about the dangers of addiction.

This is a **strong thesis** because it is making a very specific claim, and the writer has his work cut out for him to find details that support his belief that the tobacco industry will not be supported by future generations.

The best thesis statements do the following:

- **Make a strong argument.**
- **Bring unity to your paper.**
- **Make your reader curious as to how your ideas will be proven later in your paper.**

A thesis is almost always one sentence long and almost always found at the very end of your first introductory paragraph. At the end of your intro, you state:

Continued security awareness is important for all mobile device users, so they will have the knowledge to protect their mobile devices now and in the future. Also, biometrics authentication (or verification) mode and recognition (identification) mode are two important modes for mobile device now and in the future.

I think the key ideas that you highlight here are good ones! However, notice the

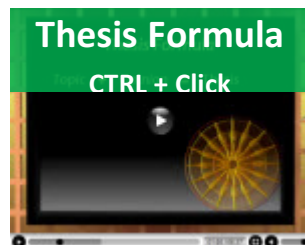
repetition of those underlined words and phrases. These two sentences are phrased rather similarly, both ending in that same idea of “devices now and in the future.” The second sentence reads like an afterthought to the first.

However, I’ll bet you could rework this claim to integrate those two points together in one stronger claim. Example:

To ensure continued security awareness for mobile devices now and in the future, manufacturers must continue to invest in developing biometrics authentication and recognition modes to better protect sensitive user data.

That’s just one idea, and it’s not meant to be perfect, but more to help get you thinking about how you can bring those two points together in a single claim without losing any key points. 😊

Also, be sure to check out the following videos (hold **CTRL and click** on the thumbnails to play in a new browser window!)



Introduction:

Your introduction has three main tasks:

- **Grab your reader’s attention with a thought provoking opening sentence.**
- **Move from the general to the specific.**
- **Conclude with a focused, argumentative thesis OR key ideas in a more informational paper.**

Good intros ease the reader into the paper gradually. After the attention grabber, they will likely lay down some important general background info. Get more specific, and transition towards the key points of the paper. Finally, the very last sentence will be the thesis statement.

Overall, your intro is off to a good start moving from general ideas about this technology to more precise points. Just make sure you strengthen your thesis at the end of the paragraph. 😊

[Check out this video for more on intros!](#) Here is another link to the [EWC's advice on writing Intros](#), which also includes help on forming a thesis. Also, be sure to check out the following videos (hold **CTRL** and **click** on the thumbnails to play in a new browser window!)



Development & Research

Goals:

- Develop coherent paragraphs, points, and/or sections so that each is internally unified and functions as a part of your entire document or presentation.
- Tailor your communications to the audience.
- Provide sufficient support for your ideas
- Integrate material from research (if required) smoothly into your own content.

Overall, the content of your paper is off to a good start. Your discussion is well-organized, with a clear, logical progression of different aspects of your body of research.

Below, I have included a few tips on literature reviews which you may find useful. However, given that you are submitting your paper very soon, I would focus more on the thesis and proofreading for grammar and mechanics.

Writing the Literature Review

What the Literature Review Is **Not**

1. The literature review is not just a summary. The literature review is an organized discussion based on a series of subtopics that you identify.
2. The literature review does not develop or prove the main arguments of your paper or essay. The literature review provides background for the development or body section of your paper.

What Is the "Literature"?

The **"literature"** refers to **published works you consulted on your narrowed topic**. This means that you are writing a "selective literature review," not a comprehensive one. In this case, literature does not mean fictional stories as it often means in an English or literature class. The "literature" is actually scholarly research.

What Does It Mean to "Review" This Literature?

It means that you provide snapshots of the major concepts or findings in each source, not a detailed summary of sources. You also provide commentary on the sources as you point out their relationships to each other.

What is the Purpose of the Literature Review?

In a college course, the literature review usually serves three purposes:

1. to deepen your understanding of the topic
2. to demonstrate your knowledge of the topic to the professor
3. to bring your readers up to date on your topic

Imagine those times in your life when you've met an old friend for the first time in years. What's one of the first things both of you ask: "So what have you been doing all these years? Fill me in. Bring me up to date."

By asking these questions, you are finding out where the other has been and how she/he arrived at the present. Filling in this background is an important part of establishing a present-day relationship.

How Does That Apply to the Literature Review?

Let's say you're writing about the use of steroids by high school athletes. In a literature review, you would say, "Over the past ten years these are the major studies about the use of steroids by high school athletes."

Then, after that literature review, you get to say, "Based on that background, this study examines the use of steroids by one group of athletes still in high school today."

And there--at that exact point--is the dividing line between the literature review and the beginning of your own study--its methods, arguments, findings and recommendations.

How Should I Organize My Literature Review?

One of the keys to writing an effective literature review is finding a way to categorize or arrange the sources that you looked at. The most common techniques are:

CHRONOLOGICAL--decades are often used as dividing lines, typically with a paragraph for each decade. In that paragraph you provide a brief summary of the studies published during that decade and comment on their achievements, shortcomings, historical importance or other relevant insights.

ADVANCEMENTS/BREAKTHROUGHS--when appropriate, sources can be divided into major breakthroughs that advanced the field. Many time these advancements/breakthroughs correspond with a time line. For example:

Autism was once thought to be caused by poor parenting and "refrigerator moms" (Bruno, 1956). Then in the 1960s leading researchers began to see autism as a "psychological condition of unknown origin" (Bradstreet *et al.*, 1972). Today autism is recognized by leading researchers as an immune disorder caused by genetic susceptibility triggered by environmental toxins (Blaxill & Olmstead, 2010).

GEOGRAPHICAL--Let's say your topic is the modern day slave trade. Today, all over the world, there are more humans in slavery than have ever been in history. Your literature review could be divided into studies of modern slavery from various countries or continents.

QUESTIONS--These are key questions or issues in the field that researchers have attempted to address over the years.

YOUR OWN--your own mapping or categories will often be the best. The key is that you have found a way to group together the publications you are reviewing.

Hold CTRL and click on the videos below for more info on Lit Reviews. 😊



Formatting & Citations

Goals:

- Format paper according to the rules of required style.
- Cite sources according to the rules of your required style.

APA

APA papers need to consistently cite their sources via in-text citations and in the references list. You will most commonly use APA style for research papers in PSYC classes and other sciences, however as it is so common, many professors will ask for APA style papers across a wide variety of curriculum. 😊

In-Text Citations

The in-text citation comes at the end of a sentence with the author's name, year of publication, and page number inside the parentheses.

Model 1:

(Author's Last Name, Year of Publication, p. #)

When punctuating a sentence with an in-text citation, remember that your sentence will still only have one period. It is held for after the citation and placed on the outside of the closing parenthesis.

Velociraptor was a fierce predator, however not as fierce as its North American cousin Deinonychus (Grant, 2011, p. 50).

In APA format, the date of publication can appear after the author's last name in parentheses if the author's name appears within the sentence. The page number still has to be included at the end of the sentence within parentheses.

Model 2:

Author's Last Name (Year of Publication) blah blah blah (p. #).

When using a signal phrase like this, it is usually best to simply introduce the info using the author's last name (rather than a title, publication, or organization.) Since the author's name is something you must cite anyway, working it into your sentence eliminates wordiness.

Example:

According to Grant (2011), "the viciousness of the Velociraptor is overstated in comparison to its North American counterpart Deinonychus" (p. 50).

Follow the above formatting conventions exactly. We would encourage you to provide p. or para. #s with your in-text citations. In some cases your citations are off to a good start, but in other places you have formatting or punctuation errors. Here are a few examples:

This is because of the focus of the features that has been captured and saved from mobile devices Teh et al., (2016). Also, Teh et al. (2016), mentioned that they did identify two issues from their survey using biometric authentication method, from the users of mobile devices.

You are correct that you may use "et al." to abbreviate a list of three or more authors' names in your in-text citations. Just make sure that the first time you cite those authors' names, you provide the full list. All subsequent citations can be abbreviated.

Also, make sure that you keep standard citations within the parentheses completely. Only keep the authors' names outside parentheses when constructing a signal phrase citation like you do in sentence 2.

An example revision would look more like this:

This is because of the focus of the features that has been captured and saved from mobile devices (Teh, Zhang, Teoh, & Chen, 2016, p. #). Also, Teh et al. (2016) identify two issues from their survey using biometric authentication method, from the users of mobile devices (p. #).

The References List

The list of full citations at the end of an APA style paper is simply titled "References" (rather than "Works Cited," or "Bibliography.")

Books in the References List:

Model (from [APA References List: Books](#)):

Author, A. A. (Year of publication). Title of work: Capital letter also for subtitle. Location: Publisher.

Electronic Sources in the References List:

Model (from [APA References List: Electronic Sources](#)):

Author, A. A., & Author, B. B. (Date of publication). Title of article. Title of Online Periodical, volume number(issue number if available). Retrieved month day, year, (if necessary) from <http://www.someaddress.com/full/url/>

Your references page citations are off to a good start, but I would encourage you to scrutinize for errors. For example, **I see a few citations where your pagination has not been formatted correctly** and you have multiple numbers and abbreviations for the page range of the article.

Please, use the following websites for more information:

[APA Formatting and Style Guide](#)

<http://owl.english.purdue.edu/owl/resource/560/01/>

APA: General Format

<http://owl.english.purdue.edu/workshops/hypertext/apa/parts/general.html>

APA In-text Citations: The Basics

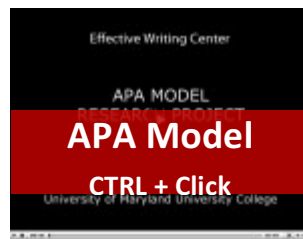
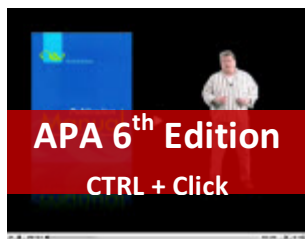
<http://owl.english.purdue.edu/owl/resource/560/02/>

APA Reference List: Books

<http://owl.english.purdue.edu/owl/resource/560/08/>

APA Reference List: Electronic Sources

<http://owl.english.purdue.edu/owl/resource/560/10/>



APA Titles & Headers

The formatting, structure, and content of your APA paper will in part depend on the kind of class you are taking and your instructor's preferences. If there should be a guideline of APA formatting that your instructor's wishes contradict, favor your instructor's preference. 😊

Typically, the title page of an APA paper will typically look like this:

The Title of Your Paper

The Author's Full Name (Your Name)

Your Academic Institution (UMUC)

Like the rest of your paper, title pages are double spaced. This info should occupy the upper half of the page (A good rule of thumb is to type your title after hitting the enter key 5-7 times depending on how many lines of text the title occupies). Titles may run onto two lines of text if necessary, but should not exceed that in length.

The Author's name should use first name, middle initial, and last name, but need not include titles or degree holdings like "Dr." or "Ph.D."

The title of a paper I wrote might look like this:

Common Issues in Verb Conjugation with E.S.L. Students

Kevin M. Folliard

University of Maryland University College

The [Purdue OWL](http://owl.english.purdue.edu/owl/resource/560/16/) has a great section on the formatting of headers and sub-headers in APA, and I couldn't put it much better than they do. 😊

<http://owl.english.purdue.edu/owl/resource/560/16/>

APA employs up to five heading levels that should be used in this order:

APA Headings	
Level	Format
1	Centered, Boldface, Uppercase and Lowercase Headings
2	Left-aligned, Boldface, Uppercase and Lowercase Heading
3	Indented, boldface, lowercase heading with a period. Begin body text after the period.
4	<i>Indented, boldface, italicized, lowercase heading with a period.</i> Begin body text after the period.
5	<i>Indented, italicized, lowercase heading with a period.</i> Begin body text after the period.

Note that for titles, headers, and sub-headers special capitalization rules apply. You will never have a header or title that is ALL CAPS.

Grammar & Mechanics

Goals:

- Use sentence structure appropriate for your task, message, and audience.
- Follow conventions of Standard Written English.

Always proofread carefully. Sometimes it helps to read your paper out loud to yourself or switch papers with a friend to try and catch as many mistakes as possible. I cannot proofread your whole paper for you, but here are a few pointers to help get you started on revision...

Apostrophes and Possession:

Apostrophes are used to show possession. Sometimes it can be tricky to remember how to use them and where to put the apostrophes. In particular, it can be hard to distinguish when you are dealing with a possessive form of a word, a plural form, or both!

Those are my friend's DVDs.

In the above sentence, we are talking about one friend so the singular form is used, but he possesses the DVDs so we add an apostrophe "s" to show possession.

Those are my friends' DVDs.

In the above sentence, there are more than one friend who own the DVDs together, so we use the plural form "friends" and just add the apostrophe after the "s".

My friends are going to the store.

In this last sentence, there is no possession. We're just talking about something the friends are doing, so there are no apostrophes.

There are lots of exceptions and strange rules in English, so it always helps to brush up! One of the odder exceptions related to apostrophes relates to Its and It's.

It's getting late, so I'm going to bed.

It's with an apostrophe is a conjunction which stands for "it is".

The monster scratched its head.

Its, with no apostrophe, is the possessive form of it. Even though this is a possessive word, there is no apostrophe. That's because **its** is a **possessive pronoun**. Possessive pronouns like my, our, your, their, its, etc. replace possessive nouns and drop the apostrophe.

Examples:

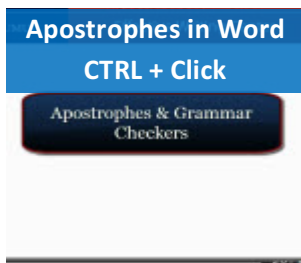
My friend's DVDs	His DVDs
My friends' DVDs	Their DVDs
The DVD's special features	Its special features

For more help with apostrophes and possession check out the links below:

[Apostrophe](#)

<http://owl.english.purdue.edu/owl/resource/621/01/>

Also, be sure to check out the following videos (hold **CTRL and click** on the thumbnails to play in a new browser window!)



Commas:

Commas can be used to put a pause in a sentence after an introductory clause. A pair of them may also separate a clause or idea from the sentence.

Introductory clauses explain details that are not directly related to the main idea of the sentence. When you lead in with descriptive info this way, you almost always set it apart with a comma.

Typically a good rule of thumb is that if you have a prepositional phrase as your opener, you probably need to set it apart from the main action of the sentence.

In the 1950s, rock and roll music was born!

Across town, they have a lovely restaurant.

Through careful reflection, I was able to reach a decision.

Each of those introductory clauses is set apart by a comma because it describes something related to the main point of the sentence before the main subject and verb are introduced.

When a descriptive clause leads **away** from the main action of the sentence, however, no commas are needed...

Rock and roll music was born in the 1950s!

They have a lovely restaurant across town.

I was able to reach a decision through careful reflection.

There's an interesting rule of thumb with commas when you have a proper term and a brief definition next to it. It is customary to put a set of commas to separate a definition that comes after the formal term. But when the definition precedes the formal term no commas are necessary. For example:

Abraham Lincoln, the sixteenth president, was shot by John Wilkes Booth, an actor.

We separate the descriptions from the proper names with commas. But what if the descriptions led up to the proper names? Then no commas are needed because the names are more important than the definitions and should be part of the sentence proper...

The sixteenth president Abraham Lincoln was shot by the actor John Wilkes Booth.

I recommend taking a few minutes to review some rules regarding commas. As you proofread and revise, pay close attention to where the commas are and are not in your paper.

Commas: Three Sentence Uses

http://polaris.umuc.edu/ewc/web/commas_sent.html



Let's check out a few examples from *your* paper . . .

EXAMPLE	Issues to Consider . . .	Potential Revision . . .
<p>Today almost everyone has mobile devices and they have become very important in our lives.</p>	<p>Use a comma before the coordinating conjunction of a compound sentence.</p>	<p>Today almost everyone has mobile devices, and they have become very important in our lives.</p>
<p>There are some government's that plan to increase funding for cybersecurity, expanding the focus to cover mobile devices because of their growing use and access to the internet.</p>	<p>Here you use the possessive form on government, but no possession is taking place. You just need the standard plural with no apostrophe.</p>	<p>Some governments plan to increase funding for cybersecurity, expanding the focus to cover mobile devices because of their growing use and access to the internet.</p>
<p>Moreover, Hale (2016), mentioned a few steps to ensuring of mobile devices and operating systems when the clients want to access the organization's network.</p>	<p>I noticed that you frequently use a comma after signaling with the author's name. There will be some situations where this makes sense, if you are leading right into a quote or paraphrase. However, if the author's name is the subject of the sentence and a verb follows (an action performed by that author for example), then you don't want a comma between your subject and verb.</p> <p>It also seems like you may have an incomplete thought or idea here. "Ensuring" what exactly?</p>	<p>Moreover, Hale (2016) mentioned a few steps to ensuring the security of mobile devices and operating systems when the clients want to access the organization's network (p. #).</p>
<p>Also, as Feigelson et al. (2015) noted that there is another alternative which is Corporate Owned and</p>	<p>Mixed construction, unnecessary extra comma between related words.</p>	<p>Also, Feigelson et al. (2015) noted that there is another alternative: Corporate Owned and Personally</p>

<p>Personally Enabled device (COPE). This means the company will provide a mobile device to an employee, that will be used for business and personal purposes.</p>	<p>Your acronym should probably follow the four words that make it up.</p>	<p>Enabled (COPE) devices (p.#). This means the company will provide a mobile device to an employee that will be used for business and personal purposes.</p>
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SPECIAL INVITATION:

If you want more excellent tips on proofreading and revision, check out this EWC Google Hangouts presentation:

"10 Proofreading Tricks They Don't Teach in School!"

<https://plus.google.com/events/ce08lmhodeifk1ea1ien2aif82o>

This brief lecture covers pointers on:

- Developing good proofreading habits
- Getting the most out of the tools and resources at your disposal
- Making revision a smooth, painless operation
- And *more!*

Summary

Good luck! As you continue your work on this project, be sure to:

1. Strengthen your thesis at the end of your introduction.
2. Review APA formatting and citations.
3. Proofread carefully for grammar, mechanics, and punctuation.

Writing Advisor:

Kevin Folliard

The Effective Writing Center

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More Resources

Here is an excellent, and thorough, [overview of APA formatting for various sources and situations: All About APA - A Complete Guide](http://polaris.umuc.edu/ewc/web/all_about_apa.html)

http://polaris.umuc.edu/ewc/web/all_about_apa.html

Here is a great breakdown of the [most common uses for commas in a sentence:](http://polaris.umuc.edu/ewc/web/commas_sent.html)

[Commas: Three Sentence Uses](http://polaris.umuc.edu/ewc/web/commas_sent.html)

http://polaris.umuc.edu/ewc/web/commas_sent.html

Copy of Your Draft

The Impact of Mobile Devices on Cybersecurity

Today almost everyone has mobile devices and they have become very important in our lives. Mobile devices are used everywhere in places such as schools, universities, hospitals, private organizations and so on. They have also become attractive to attackers because of all of the personal information that clients use and can save on their mobile devices. There are some government's that plan to increase funding for cybersecurity, expanding the focus to cover mobile devices because of their growing use and access to the internet. The number of mobile device users is becoming larger every day and at the same time, cyber threats to these devices will increase. Also, what will happen to the user's information on their device once they are no longer using it? This is particularly important if the device is resold to another user. Continued security awareness is important for all mobile device users, so they will have the knowledge to protect their mobile devices now and in the future. Also, biometrics authentication (or verification) mode and recognition (identification) mode are two important modes for mobile device now and in the future.

Threats on Mobile Devices

One issue facing security is that today mobile devices may have more than one owner, and the reason behind it is that the companies such as Appel, Android, LG, etc, keep updating and upgrading their smartphones very often. Even some of companies like Apple company keep upgrading their phones every September. Some people keep buying upgraded new mobile phones and then they sell the old mobile devices. Also, some people lose their phones, or their phones break and a company refurbishes it and sells it.

According to Glisson et al. (2011), mobile devices can end up having multiple owners, through their lifetime. These smart devices are present everywhere in society today and they are becoming more complex. This increases the complexity of mobile device information stored in it and makes it challenging to keep secure because the users may use it for a range of personal and corporate activities. For instance, trying to delete contact or email information by resetting the device, it may end up erasing the underlying data from device's memory. However, it is still not documented in the contact file contents such as: has the contact been really permanently deleted, has the contact file really been permanently overwritten, and how much of that can be recovered by forensic examination? These kinds of problems show a challenge for the privacy from the previous mobile device owner (Glisson et al., 2011).

Hale (2016), noted emails are the biggest threat area. It is the responsibility of the organization to manage these kinds of issues such as email threats. The organization can create a policy for securing mobile communication and search for technologies that are able to identify risks or any potential cyber-attacks. It is interesting to note that according to Hale (2016), in some ways, mobile devices are considered to be more secure if we compare with traditional laptop or PC (Personal Computer). There are security measures built-in operation system security, that are still not part of desktop operating systems because this software for mobile devices that are only offered by app stores (Hale, 2016).

Moreover, Hale (2016), mentioned a few steps to ensuring of mobile devices and operating systems when the clients want to access the organization's network. First, they need to scan for vulnerabilities. Second, enforce a strong Bring Your Own Device (BYOD) that will allow effective control limited network search access. Third, extend the organization policies to third-party vendors, and so on (Hale, 2016). Feigelson et al. (2015), agrees to the point that

BYOD it is recognized as a serious threat to the company. It can happen easily when there is no control over the employees with unlimited access to download something that may or may not be for work to their personal mobile devices from the company network. Also, as Feigelson et al. (2015) noted that there is another alternative which is Corporate Owned and Personally Enabled device (COPE). This means the company will provide a mobile device to an employee, that will be used for business and personal purposes. Doing this will benefit the company with the additional control to increase mobile security. If we compare COPE with BYOD, COPE is considered less risky than BYOD regarding for security threats (Feigelson et al., 2015).

Security Awareness for Mobile Devices

Mobile devices are currently first when it comes to accessing information and using for different services. Mobile devices, especially smartphones and tablets are used by any generation and the number of mobile devices users keeps increasing all the time. Since mobile devices are used for different services such as online payments, checking personal bank accounts balance, and so on. It has become security-critical (Riedl et al., 2015) to secure these devices. According to Jones et al. (2014), article, the growth in mobile device use has increased a lot recently. In 2013 a research study reported that approximately around 56 percent of adult Americans have at least one smart device. These growing statistics noted from Jones et al. (2014) clients use of mobile devices agrees with Riedl et al. (2015) with user's increased use of mobile devices. Also, both Jones et al. (2014) and Riedl et al. (2015) agree on another point which is that mobile devices are targeted from many different cyber-attacks such as phishing, malware, spyware. They try to raise awareness for people that use smartphones to identify (not to try to prevent) this kind of attacks (Riedl et al., 2015).

According to Jones et al. (2014), a survey was done for the smartphones users of undergraduate college students at a regional public university. One of the questions was if they regulate smartphone security practices. The survey found out that many smartphone student users did utilize some security, but most of them were ignoring it, which is a potential risk for their smartphones (Jones et al., 2014).

Another interesting fact that was mentioned from the Riedl et al. (2015) study is that people often share their mobile devices and this is problematic. For instance, smartphones can be shared between family members, coworkers, colleagues, or friends, such as text messages, watching a video, and so on. These sharing practices can be another security risk to each person's smartphone (Riedl et al., 2015). These two articles show smartphone users awareness is low due students ignoring the smartphone security practices and sharing mobile devices with family, coworkers, and friends. These practices cause potential risk to the mobile devices.

Cyber-attacks on Mobile Devices

Cyber-attacks are common attacks in the 21st century, especially on smartphones. There are many reasons why cyber-attacks are more attractive and some of the main reasons are the following: cyber-attacks are cheaper, they are less risky than physical attacks, a criminal would need only a computer and an internet connection to execute a cyber-attack, another benefit of it is that it can be done from any distance as long as there is a computer connected to the Internet, and so on. Now with the increased use of mobile devices, cyber-attacks are increasing easier and can be carried out sitting on a park bench or almost anywhere (Jang-Jaccard and Nepal, 2014). The cyber criminals usually are taking advantages of billions of active users with Internet connection. These criminal operate through new technologies connected by the internet to reach

out to the victim's computer devices. They use technology developments such as social media, cloud computing, mobile devices, and so on (Jang-Jaccard and Nepal, 2014).

According to Jang-Jaccard and Nepal (2014), social media such as LinkedIn, Twitter and Facebook have increased the user's number in recent years. All these social media typically offer personal information from their users and most of these users do not keep their information in private mode, on that specific website but they keep it in public mode. Which means that with a simple Google search user's name, you can find the users personal information such as full name, address, date of birth, a location visited, photos, friend's connection, and so on (Jang-Jaccard and Nepal, 2014). Conteh and Schmick (2016) agrees that social media benefits cyber criminals who are taking advantage and gathering private information from the social media users. Also, it is interesting to note that cyber criminals do not need to be intelligent anymore to be effective in the digital world, because of some of the following benefits: gathering personal information online, hiding their identity, the distance from a victim. At the end of the day, it is just a little risk for them doing a cyber-attack from distance (Conteh, and Schmick, 2016).

Wright et al. (2012) noted that there is a not much security software for a large number of mobile devices. This makes many smartphones and tablets very vulnerable to cyber-attacks. Also, statistics shows that around 96 % of smartphones and tablets do not contain any security software. Between 2009 and 2011 there were identified around 2000 different types of mobile malware (it is an attack that is loaded on an operate system) (Wright et al., 2012). Chen et al. (2015), agrees with Wright et al. (2012) and pointed out that malware was the biggest threat in the year of 2011, and it became worse in 2012. Also, Chen et al. (2015) show the smartphone users statistics. For example, there are two smartphones operating systems in the market: iOS and Android. There were 46 different types of malware identified on the iOS from 2009 – 2011,

and the malware attacks increase with enormous number between 2011 and 2012 were around 120,000 malicious identified on Android application (Chen et al., 2015).

Biometrics on Mobile Devices

Biometrics is authentication that will recognize on behavioral and physical characteristics (Gofman and Mitra, 2016). Biometrics help the users that will not need to remember a password for their mobile devices anymore. It will be a big challenge or almost impossible for cyber attackers that will not be able to guess physical characteristics of the users. However, there were identified some critical issues from users from iPhone TouchID and Samsung Galaxy S5 such as failing to identify fingerprint from their users. Because one of the biggest problems of biometric authentication in mobile devices is the quality. For instance, a clear-quality of identification such as photography, fingerprint, voice recording, face recognizing, and so on. Another known challenge is training the biometric authentication system to identify the smartphone users (Gofman and Mitra, 2016). Teh et al. (2016) contrast this idea regarding biometric quality fail. They declared that there are biometric features that are recognized better than the others. But this is not an issue using lower performance features, they are useful as well. This is because of the focus of the features that has been captured and saved from mobile devices Teh et al., (2016). Also, Teh et al. (2016), mentioned that they did identify two issues from their survey using biometric authentication method, from the users of mobile devices. First, the users said that is using face feature for biometric authentication it was embarrassment feeling and time consuming. Second, the mobile device users complained about fingerprint scan, because of mobile device covered with protection cover and sometimes they finger were dry or too oily Teh et al., (2016).

Overall, smart devices are present everywhere today, in the future, they will become even more important because the user's number is increasing every day in our society. This increases the complexity of the information stored in it, which will challenge the mobile device companies to keep their customer data safe. However, mobile devices are considered to be safer than laptop and personal computers. Stealing information over smart devices is becoming more frequent and problematic to users. The study survey shows that most of mobile device users keep ignoring the security on their mobile device. In the future, we need to focus on techniques that can help make the mobile device more secure. One of the best conclusions is the biometric technique is far better than traditional methods of securing mobile devices. But, the mobile device producers need to focus more in biometric authentication and make the biometric features more sophisticated.

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