



HEALTH EXTENSION SERVICE

NTQF Level -III

Learning Guide -7

Unit of Competence: -	Apply Computer and Mobile Health Technology
Module Title: -	Applying computer and Mobile Health Technology
LG Code:	HLT HES3 M02 LO2LG7
TTLM Code:	HLT HES3 M02 TTLM 0919V1

LO2. Apply the functions of technology



Instruction Sheet	Learning Guide #-2
--------------------------	---------------------------

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Mobile/smart phones and tablets
- Functions of technology
- Features of new/ upgraded equipment's
- Online search of information

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, **you will be able to –**

- Use Mobile/Smart phones and tablets for solving organizational problems
- Apply the functions of technology to assist in solving the health and related data collection, organization, analysis and interpretation.
- Test new or upgraded equipment according to the specification manual.
- Apply features of new or upgraded equipment within the organization
- Access, use and interpret sources of information relating to new or upgraded equipment

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4,---” **in page ---, ---, --- and ---** respectively.
4. Accomplish the “Self-check 1, Self-check t 2, Self-check 3 and Self-check 4” ,---” **in page ---, ---, --- and ---** respectively
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1, Operation Sheet 2 and Operation Sheet 3 ” **in page ---.**
6. Do the “LAP test” **in page – ---**



Information Sheet-1	Mobile/smart phones and tablets
----------------------------	---------------------------------

1.1. introduction to Mobile/smart phones and tablets

In the past, mobile phones were mostly about making phone calls. They had a number pad, a digital phone book and a pick-up/hang-up button and not much more. Now smart phones offer so much more – they’re really fully-fledged computers that you can fit in your pocket. They can run programs and games; access the internet, send email and much more.

Nearly all smart phones now use touch screen controls. Instead of having hardware buttons like before, one side of the phone is taken up mostly by a touch screen that you control using taps and gestures. There aren’t even any number buttons; when you want to make a call, a number pad will pop up on the touch screen. Becoming familiar with a Smartphone can take a little bit of practice. But when you do become familiar with it, you’ll find that a Smartphone can do more than you ever thought possible on a mobile phone.

1.2. Mobile/smart phones and tablets function

A smart phone can: Make voice calls (of course!) Make video calls Access the internet and browse the web Take photos, and upload them to the web Navigate with GPS if the phone has GPS built-in Play back music and video stored on the phone (and connect to a PC to copy media to it) Manage your contacts and appointments Send emails Play in-built games Run new applications and games downloaded for the internet.

1.3. Utilizing mobile phone plans

Many mobile phone plans – pre-paid and post-paid – now include a data component. For example, an Every Day Connect plan from Telstra will also include data as part of the plan. In addition, on many post-paid services you can purchase a data pack as an add-on to your basic mobile plan. The data component of the plan will be limited to a set amount of downloads each month (listed in megabytes/MB or gigabytes/GB). This works very much like your home internet plan. One important thing to note is that on most mobile data plans, you will be charged extra if you go over your limit. So you need to read the mobile agreement carefully and check your usage levels regularly. Many mobile providers also allow casual data usage on a pay-as-you go basis if you don’t have an explicit monthly quota on the plan. This is usually charged at a higher rate than if you have a data component built into the plan.

Health Extension Service Level III	Vision :01 Sep. 2019:	Page 3 of 22
	Copyright Info/Author: Federal TVET Agency	



1.4. Identifying Phone Model Differences

Just because two phones might run the same operating system, doesn't mean the phones are identical: There are physical differences: the weight and the screen size There are performance differences: the speed of the processor and the amount of memory (much like on computers) There are software differences, with different manufacturers loading different programs onto phones.

1.5. Mobile/smart phones and tablets utilization in health service provision

1.5.1. Tablets

Maximize portable technology in the patient encounter by supporting Point of Care documentation, Real-time care coordination, Labs & Imaging, Patient education, Therapy benefits, Access to past medical history and Countless additional benefits



1.5.2. Smartphones

Smartphones are ubiquitous in healthcare and supports Care coordination, External device connection for testing and diagnostics, Blood pressure monitoring, Blood glucose levels and Use of smart apps





Self-Check -1	True false question
----------------------	----------------------------

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mobile/Smart phones and tablets are used for solving organizational
2. Tablets technology are not applied to assist in solving the health and related data collection, organization, analysis and interpretation.
3. If two phone runs the same operating system then they are identical
4. All mobile phone plan includes a data component
5. Mobile/smart phones and tablets are fully fledged computers

Note: Satisfactory rating - 3 points

Unsatisfactory - below 3 points

Answer Sheet

Score = _____
Rating: _____



Name: _____

Date: _____

Short Answer Questions

1. _____
2. _____
3. _____
4. _____
5. _____



Information Sheet-2	Functions of technology
----------------------------	--------------------------------

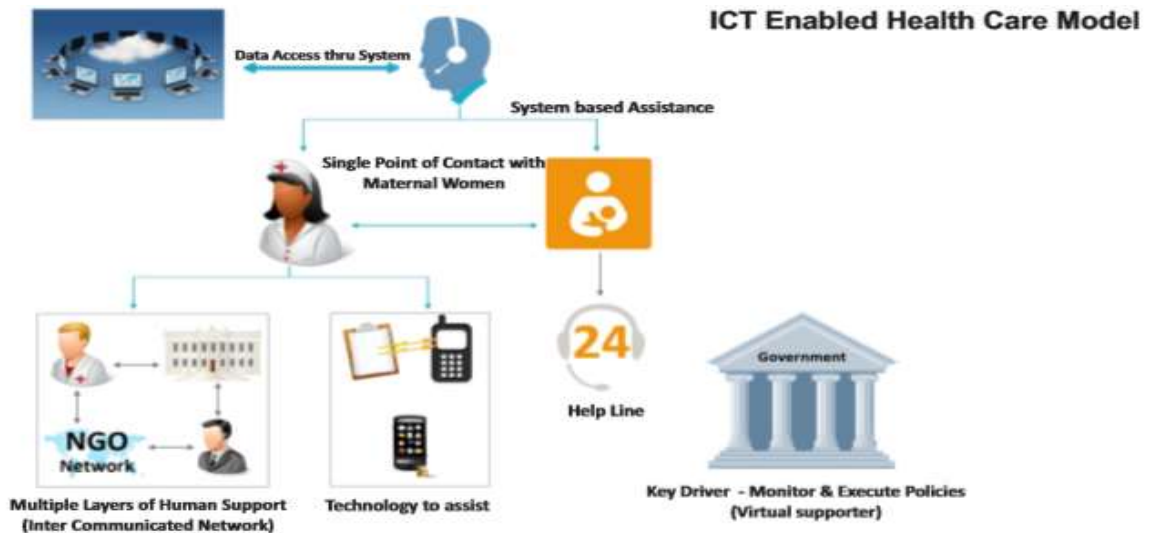
2.1. Introduction to technology

Technology is wide-ranging term used to describe not just the computers you have, but also the software, printers and other devices that you use to support your business. This can also extend to include online services and websites, such as Facebook and YouTube and other application specific websites.

2.2. Functions of technology in organizations business

Technology, when used to support business needs, should be considered as an asset to be invested in, not a cost to be borne. When implemented properly, good technology investments result in a measurable return on investment (ROI). That ROI might well be achieved through lower running costs, better productivity, better customer service or simply increased sales due to increased capacity.

When we came to healthcare, healthcare industry is experiencing a steady and stable transformation across the world. And Information Technology (IT) is playing a core role in every aspect of healthcare.



2.3. Functions of Information Technology in health care includes

- ✓ Automated Operations to make monthly calls and feed information to maternal women Seamless interfacing with third-party databases Manage voice recording with ease
- ✓ Ability to obtain real time and updated information to provide reliable service

Health Extension Service Level III	Vision :01 Sep. 2019: Copyright Info/Author: Federal TVET Agency	Page 8 of 22
------------------------------------	---	--------------



Improve productivity with comprehensive reports

- ✓ ensuring faster adaptability of advanced technologies
- ✓ reduction of service costs and
- ✓ Provision of quality healthcare at affordable prices.

Health Extension Service Level III	Vision :01 Sep. 2019:	Page 9 of 22
	Copyright Info/Author: Federal TVET Agency	



Self-Check -2	True False Questions
----------------------	-----------------------------

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Technology is just the term used to describe the computers you have
2. Face book and You Tube are application Specific websites
3. Technology, when used to support business needs, should be considered as a cost to be borne
4. Information Technology (IT) is playing a core role in every aspect of healthcare
5. Automated Operations to make monthly calls and feed information to maternal women Functions of Information Technology in health care



Note: Satisfactory rating - 3 points

Unsatisfactory - below 3 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Answer Sheet

1. _____
2. _____
3. _____
4. _____
5. _____



3.1. Introduction to new/ upgraded equipment's

There are many reasons why you need to continue investing in your technology – and consider regular upgrades and essential part of your strategic toolkit. Here we focus on just some of them. Each of these points will impact individual business in a different manner, and each can play a role in helping you be more efficient and to focus on what is important.

3.2. The features of upgraded technologies

The features of upgraded technology are they speed your work load/faster, allow communicating smarter, introducing efficiencies, more secure, evolving and growing with new features, access vendor support, supported when things go wrong, benefit from a current warranty, keep up with business growth and streamline your training.

1. SPEED UP YOUR WORKLOADS

In this fast-paced world, everyone wants things faster. With technology, it's no different. We have faster CPUs, more processors, faster hard drives, the list goes on. These resources make processing of any given workload also run faster. This translates directly into better productivity for the users, the ability to service more clients. Put simply, older systems simply do not run things as fast as newer systems can do. You might upgrade the software to later versions, but they will typically require more resources (i.e. RAM and CPU) and therefore run slower on older computers, if at all.

2. COMMUNICATE SMARTER

Newer technology helps companies to have greater flexibility when communicating with clients - and higher business potential when doing so. From simple things such as being able to email clients from mobile phones (which was not possible not all that long ago), through to technology that permits integration between business systems and social media.

3. INTRODUCE EFFICIENCIES THROUGH MOBILE WORKING

Simply put, newer technology permits you to do things that you could not previously do. The ability to do stock lookups from your accounting system using a mobile device means a sales rep on the road can quickly take orders, knowing that he can deliver within a specific timeframe. This is just one of many examples of the convenience truly mobile work systems can deliver.

4. FOCUS ON SECURITY

Many people feel that Windows XP may do just fine for their needs, but if it gets hacked... then what is the risk for you and your information? Older systems such as



Windows XP are not being actively checked for security vulnerabilities, therefore your information and your customers' information is at risk of being compromised, stolen or even corrupted. Other ageing systems face the same vulnerabilities; the Windows example is just one of many.

6. EVOLVE AND GROW WITH NEW FEATURES

Software vendors are taking advantage of features in new operating systems to provide enhancements that are simply not possible in older operating systems. Many older computers now cannot be upgraded to work with the newer operating system – limiting the functionality available to you.

6. ACCESS VENDOR SUPPORT

Software vendors are typically only testing their applications on the current version and just-prior version of a given operating system. They simply won't be investing the time in testing on systems that are say 10 years old and, as a result, can't support them if there are issues. In addition, hardware vendors such as HP and Fujitsu do not provide drivers to allow their newer computers to work with older operating systems, resulting in reliability problems with those machines.

7. BE WELL SUPPORTED WHEN THINGS GO WRONG

Similar to vendor support, if the technology gets too old, us as IT professionals can't support it. The knowledge we have may be limited and the tips and tricks that used to work with old systems are different to those needed in newer environments. In short – we simply don't know it all, but most IT guys won't tell you that. It can take us time to find answers, which is often linked to higher support costs.

8. BENEFIT FROM A CURRENT WARRANTY

While a system is under warranty, if something fails you can quickly get it replaced and up and running again. When it falls out of warranty, you're at the mercy of the vendor and whatever they may have laying around. We've seen systems that are 5+ years old that don't have any warranty or maintenance on them fail and immediately put the business into a disaster recovery situation – having to source a new server and then restore from backups. If the system had maintenance on it, parts would be readily available and fixed within a much shorter timeframe. The business risks often go unnoticed as many people don't monitor warranty expirations.

9. KEEP UP WITH BUSINESS GROWTH

Your systems might be designed to support a certain number of people and, over time, you add one more, then one more... and so on. Before long, the system designed to support 5 people is supporting 25 people and has slowed to a crawl. The same limitation can also apply to the number of orders you process, the volume of stock you have on hand, etc. Having systems sized correctly for your business operations has a

Health Extension Service Level III	Vision :01 Sep. 2019: Copyright Info/Author: Federal TVET Agency	Page 13 of 22
------------------------------------	---	---------------



direct link to the productivity and performance of the technology solution.

10. STREAMLINE YOUR TRAINING

Having older systems and technology can be a frustration for new/younger staff who simply doesn't know how to use them. Training up younger staff on how to use older text based systems (as an example) when they are used to the point and click of today's world can be fraught with issues - not only in the time it takes, but also due to the potential for errors during the entire process. Compare Windows XP to Windows 10 as an example of how much things have changed in the last 10 years alone and you get an idea of the challenges faced by some of your younger team members.

Health Extension Service Level III	Vision :01 Sep. 2019:	Page 14 of 22
	Copyright Info/Author: Federal TVET Agency	



Self-Check -3	Written Test
----------------------	---------------------

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. New and upgraded equipment can play a role in helping you be more efficient to focus on what is important.
2. Newer technology helps companies to have greater flexibility when communicating with clients
3. Upgraded technologies are unsecure most of the time
4. The features of upgraded technology are they speed your work load/faster only
5. Vendor supports even an outdated technology



Note: Satisfactory rating - 3 points

Unsatisfactory - below 3 points

Answer Sheet

Score = _____

Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____

2. _____

3. _____

4. _____

5. _____



4.1. Introduction to information searching

Most information is found on the Internet by utilizing search engines. A search engine is a web service that uses web robots to query millions of pages on the Internet and creates an index of those web pages. Internet users can then use these services to find information on the Internet.

If you have a general idea of the subject in which you're interested, but are not sure exactly what you're looking for, a directory is a great place to start.

If you already know exactly what you're looking for, a search engine is the best way to find it. Search engines use keywords or phrases you choose to determine which web pages have relevant information. Think of a search engine as an index for the web.

4.2. Way of searching for information online

1. Searching of information by using Directories

Directories like Yahoo! use human editors to organize information in broad categories, such as finance, sports, or travel. Think of them as giant card catalogs. By starting with these categories and then moving down through subcategories, you can narrow your search until you find the information you need.

2. searching of information by choosing keywords

For the best results from a search engine, it's important to choose your keywords wisely. Keep these tips in mind: Try the obvious first. If you're looking for information on Picasso, enter "Picasso" rather than "painters". Use words likely to appear on a site with the information you want. "Luxury hotel Dubuque" gets better results than "really nice places to spend the night in Dubuque". Make keywords as specific to your topic as possible. "Antique lead soldiers" gets more relevant results than "old metal toys". Use a directory to find keywords related to your topic, and then enter those words in a search engine.

4.3. Reading Search Results

Search engines put the most relevant results first, so if what you want is not in the top listings, try again with more specific keywords. Or, narrow your search by adding more keywords. Google returns only pages containing all the keywords you use, so adding



more keywords eliminates less relevant pages. To get more results, use more general keywords or include fewer search terms.

Google's "cached" link shows you a snapshot of a web page so you can see it even if the actual site is not accessible. On cached pages, your keywords are highlighted to make them easier to find. Seeing where your keywords appear on a web page prior to clicking a result link can save you time. That's why Google displays an excerpt from each returned result page showing your query terms in bold type.

These snippets let you see the context in which your search terms appear on the page, so you can determine if the site is worth visiting. To find more pages like a particular result, click on the "Similar Pages" link. This service automatically scouts the web for pages with content related to the link you select. To begin your search, type www.google.com into your browser's "Address" field and hit enter.

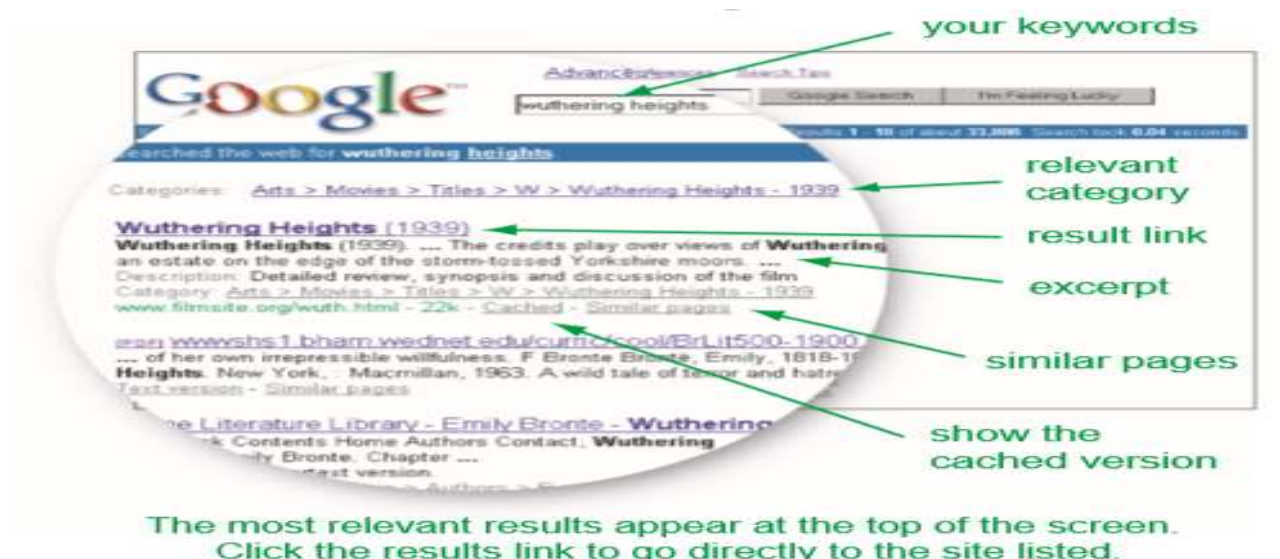


Figure1. Reading for search information on Google search

Directories arrange information by topic. Click through categories and subcategories until you find what you want.

Health Extension Service Level III	Vision :01 Sep. 2019:	Page 18 of 22
	Copyright Info/Author: Federal TVET Agency	

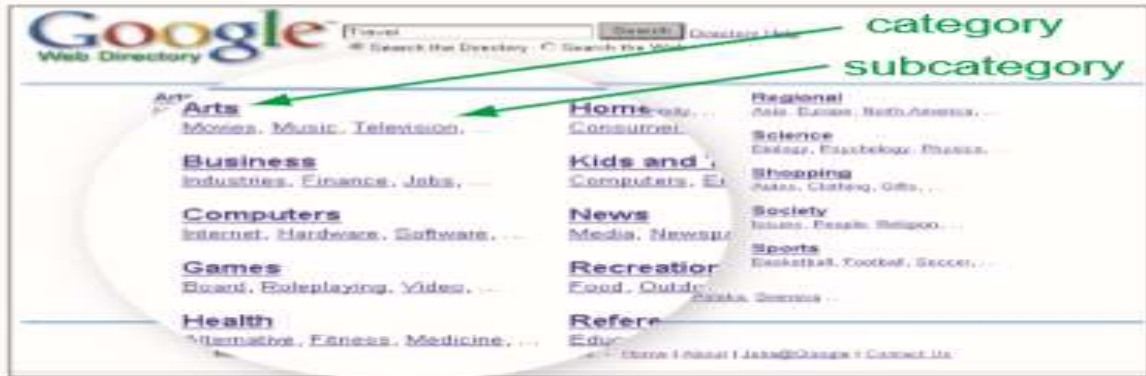


Figure2. Order of search information on Google search

Google looks simple, but searches more than a billion pages. Enter what you're looking for, then click "Google Search".



Figure3. Keyword searching on Google search



Self-Check -4	Written Test
----------------------	---------------------

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Most information is found on the Internet by utilizing search engines
2. Search engine can be seen as an index of the web
3. Using directories for searching of information online is the only way
4. Search engines put the most relevant results first
5. Entering what you're looking for on search engine called as keyword searching



Note: Satisfactory rating - 3 points

Unsatisfactory - below 3 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____
2. _____
3. _____
4. _____
5. _____



Reference

1. INTRODUCTION TO SMARTPHONES PART 2 BEGINNERS GUIDE
2. 15 REASONS WHY YOU SHOULD UPGRADE YOUR TECHNOLOGY,2017
3. [HTTP://WWW.GOOGLE.COM/SEARCHGUIDE.HTML](http://www.google.com/searchguide.html)

Prepared By							
No	Name	Educational Background	LEVEL	Region	College	Email	Phone Number
1	Fayere Guyasa	Enviromental	B	oromia	Nagelle HSC	koketfaye@gmail.com	0967629090
2	yitagasu yosef	Enviromental	B	oromia	Nagelle HSC	zemenyosef@gmail.com	0916450613
3	Jemal Abraham	Health Informatics	A	Harari	Harar HSC	elemojemal@gmail.com	0913122545
4	Serawit Mengistu	MPH	A	oromia	Nagelle HSC	ser9112001@gmail.com	0913136510
5	Abebe Tiko	Nursing	B	oromia	Nagelle HSC	abebetiko80@gmail.com	0931448876
6	Ephrem Berhanu		A	oromia	Mettu HSC	ephremberhanu403@gmail.com	0917468370
7	Tariku Olana	MPH	A	oromia	Nekemte HSC	tarikuolanagid@gmail.com	0935068440
8	Gemechu Geleti	Nursing	B	oromia	Nekemte HSC	no	0917091660
9	Solomon kifle	PHO	B	BGRS	Pawi HSC	solomonkefie1@gmail.com	0918192159