

ICT – Ikoranabuhanga mu Makuru no Gutumanaho

Radiyo Itahuka, Tariki ya 2 Nzeli 2013

<http://www.blogtalkradio.com/radioitahuka/2013/09/03/fdu-inkingiict-ikoranabuhanga-mugutumanaho>

Byateguwe na:

Bwana Eric Bahembera, Ingenieur-Informaticien,

Umuvugizi wa FDU-Inkingi mu Budage.

1. icyo ICT bivuga

ICT aribyo Ikoranabuhanga mu Makuru no Gutumanaho (**Information Communications Technology [1]**) ni ubumenyi bwifashisha imashini mu **guhunika** (to store), **gusaba** (to retrieve), **guhindura** (to manipulate), **guhhererekanya** (to transmit) no **kwakira** (to receive) amakuru aciyeye mu mashanyarazi yoroheje (electronically) mu buryo bw'ibarisharutoki (digital form).

Mu yandi magambo yoroshye ICT ni **ubuhanga mu gukoresha mudasobwa** (computer) mu bijyanye n'amakuru. Amakuru avugwa muri ICT si nka ya yandi tubaza ngo "amakuru ki gusa". Kuri mudasobwa icyo wayinjizamo cyose gifitanye isano n'ibidukikije, ni amakuru. Tuvuge ko nko kubika umwirondo w'umuntu ari ukubika amakuru akomeye yatuma abantu bayagezeho batamuzi bamumenya.

Impamvu "Gutumanaho" byiyongera mu izina kandi nabyo bigakoresha amakuru.

Mu myaka ya vuba ubuhanga mu guhererakanya amakuru bwateye imbere cyane ku buryo kuvuga **IT (Information Technology)** bitumvikanaga neza ko hari igice kinini gitandukanye na za mudasobwa cyane cyane ubuhanga mu kwubaka imiyoboro no gukoresha ibindi byuma mu guhererekanya amakuru. Muri ibyo byateye imbere bitari bimenyerewe ni nka **murandasi (internet)** na za telefoni zigendanwa (mobile/smart phones) zisigaye atari izo kuvugiraho gusa aho zinakora byinshi byaharirwaga mudasobwa.

Ako kajambo **Gutumanaho** kiyongera mu izina akenshi iyo **abategeka u Rwanda biyamamaza ngo barashaka guhindura u Rwanda Singapour ugasanga ari ko bibandaho** gusa. Nk'uko ndi bubigarukeho nyuma ako kajambo ntigahagije konyine. **Murandasi na Twitter ntibyateza imbere igihugu byonyine cyane cyane iyo bikoreshwa gusa mu kubeshya isi ngo nta ntambara batera muri Kongo kandi bigaragarira buri wese ushaka kubona.** Twibukiranye ko bimwe mu biteza izo ntambara ari ugusahura amabuye acurwamo ibyuma byinshi mu bikenerwa muri ICT. Burya mudasobwa nyinshi n'izo za telefoni zigendanwa zirimo amaraso ya bene wacu. Gupfuka amaso kuri za "mapping report" nta kindi kindi kibitera: ni ayo mabuye basahuranwa.

2. Ibyiciro by'ingenzi biranga ICT

ICT igabanywamo ibyiciro bibiri ari byo: **Icyiciro cy'ibyuma (Hardware)** n' **icyiciro cy'ubufindo (Software)**. Bibaye ngombwa kuvuga kuri ibyo bice ngo umuntu abone uko atekereza aho duhagaze n'aho igihugu cyacu gihagaze. Byadufasha kubona aho dufite amahirwe manini yo kuba twatera imbere.

Duhere mu cyiciro cy'ibyuma bikoreshwa muri ICT (Hardware). Ibyo byuma ni za mudasomwa n'ibice byazo cyangwa ibyinjiza cyangwa biyisohoramo amakuru. Twavugaga nk'akaho k'inyuguti (keybord) cyangwa se imashini zicapa (printers) . Turebye mu byerekeye gutumanaho hari nyine za telefoni, insinga mu butaka cyangwa iminara ituma amakuru aca mu kirere bikagenda bikagera no mu byogajuru. **Muri ibyo byose ni ikihe kiva iwacu, ni ikihe ducura cyangwa twashobora kwicurira usibye gutoragura amabuye babicuramo kandi nabwo tumaze kuyarwaniramo nk'imbwa zirwanira mu mayezi?** Ikigaragara kugeza ubu kw'isi ni uko ntawe ucura byose wenyine; akenshi abantu bagenda bateranya ibice baguze ahandi cyangwa bashushanyirijwe n'abandi. N'u Rwanda ruri ku isi wenda hari urundi ruhare usibye urwo gusahura abaturanyi rwabigiramo.

Reka turebe no ku cyiciro cy'ubufindo (Software). N'ubwo abubaka ibyuma twavuze hejuru bagaragaza kwigana ubwonko ntibikora bidahawe ubwenge. Uko bikora ni ubufindo mu bundi. Niyo mpamvu twita ubwo bumenyi ubufindo. **Ni ubufindo koko bushobora gufata icyuma kimwe kigakoreshwa imirimo (Applications) itandikanye, bugafata amakuru bukayavanga n'andi akabyara ayo n'umuntu atatekeraza atarata umutwe.**

Ingero z'ubufindo bworoheje kubukoresha:

- Kwandika (office software) bikoreshwa mu biro cyangwa mu ngo.
- Kwandika ibitabo cyangwa ibinyamakuru (Desktop publishing).
- Imbuga kuri murandasi.

Hari n'ubufindo buhanitse akenshi abanyapolitiki bavugaga ko bateza imbere ICT mu Rwanda badatekerezaho mbere yo kwishyira mu rwego rwa Sengapour mu myaka itarenze icyumi.

Ingero ni:

- Business Software: Zifasha isosiyeti mu kurangura, gucuruza, kubara umutungo no kwiteganyiriza.
- Computer Aided Design (CAD) : Zifasha mu kwubakwa kw'amazu, imashini, imihanda.
- Ubufindo bukoreshwa mu nganda (industrial software): Akenshi hano biterwa n'icyo uruganda rukora, imashini zirimo n'imitere y'akazi hakaba hakwandikwa ubufindo bwabigenewe.

Ku bufindo naho mpibazeho ikibazo cyo kumenya uruhare u Rwanda rufite mu guteza ubufindo imbere. Mu Rwanda hakenewe ubuhe bufindo, hakorewa ubuhe? Ko kwubakira ubufindo byo bitagombera inganda zabuhariwe ahubwo bisaba imitwe itekereza, ntibyaba byoroshye gutera imbere muri urwo rwego? Igihugu mbese gitanga uburyo bwatuma umuntu atekereza (conditions)? Amashuri yaba atanga ubumenyi buhagije bubikenewemo?

3. ICT mu Rwanda na gahunda "Vision 2020"

Iyo u Rwanda rwifuzaga kuba nka Singapour [2] mu myaka mike umuntu yumva ko ari ukurota. Ni ukurota mu by'ubukungu. Ku bya politiki ho ibihugu byombi biragereka. Mu Rwanda no muri Singapour hategekeshwa igitugu. Abayobora u

Rwanda babona nabo ko mu bukungu ari ukwisumbukuruza umuntu agakabya gutekereza kumera mu myaka icumi nka Singapour. Ariko bazi neza impamvu babikora: kwitwaza icyo kigereranyo ni uburyo bwo gucecekesha abarwanya igitugu bavuga ko hari abo gikura mu bukene. Nyamara uko tugiye kubibona politiki y'u Rwanda mu bya ICT abatekereza ko izadukura mu bukene ni abibwira ko Kigali ari yo Rwanda yonyine.

ICT muri Singapour yinjiza amafaranga si iyo kuyasohora gusa nko mu Rwanda. Bafite inganda za ICT zisagurira amasoko yo mu mahanga. Urugero ni uko mudasomwa nyinshi cyane mu myaka ishize igice gisohora amajwi (sound card "Sound Blaster") cyakorwaga n'isosiyeti yitwa "**Creative Technology**". Iyo sosiyeti yo muri Singapour n'ubu ni imwe mu zikomeye zikora utwuma two kwumva imiziki tugendanwa (MP3 Player).

Mu Rwanda hari isosiyeti zingaha zubaka ibyuma bikoreshwa muri ICT ko hasigaye imyeka 6 gusa vision 2020 ikaba icyuye igihe? Hari isosiyeti zingaha zishobora gukora ubufindo bukenewe na za mudasobwa? **Icyakora ntawabura gushima abasore n'inkumi zaho zubaka imbuga za internet ziteye amabengeza.** Byerekana ko imitwe ihari (**le potentiel**); harabura ukwishyira ukizana kwatuma abantu batekereza ibindi bitari ugusingiza icyama gusa. **Nta hantu ba rwiyezamirimo babona ikiraka batagabanye n'abashyira mu bigega byo kunyunyuza rubanda gusa. Ngo nako ni ukwihesha agaciro!**

Minisiteri y'ikorabuhanga yanditse [3] ko ICT yatanze akazi ku bantu ibihimbi bine (4000). Ukuyemo abacukura imiyoboro yo gucishamo insinga "fibres optiques" ntacyaba gisigaye. **Iyo miyoboro yakwirakwijwe mu Rwanda hose ngo izatuma u Rwanda ruba indiri ya ICT (ICT hub) muri afrika y'uburasirazuba yose.** Nyamara iyo miyoboro ifata agace ko gutumanaho muri ICT ukoresheje murandasi. Kugira ngo yo miyoboro ikore, igomba guca muri Tanzaniya na Uganda, maze ikabona kujya mu nyanja y'abahinde, aho ihera igera ku isi yose. Kuba iyo miyoboro ari yo abantu bacungiraho gusa byakagombye kuba intandaro yo gushaka umubano mwiza n'ibyo bihugu aho kubyiteruraho. Ibyo aribyo byose umwuka mubi hagati y'u Rwanda na Tanzaniya ntutuma ako twacungiragaho muri ICT gatera imbere? **Ni gute nk'umuntu washakaga kwiyemeza imirimo mu rwego rwa murandasi yabitangira mu Rwanda kandi abona ishyamba atari ryeru?** Tuzatera imbere gusa ari uko mu karere hagarutse amahoro.

Kuba ariko iyo miyoboro ihari ni ibyo gushima kuko ari intangiriro. Iyo miyoboro n'ubwo ihari icyakora hari ikibazo cyo kwubaka imetero za nyuma (last miles) kugirango serivise igere ku baturage. I Kigali ho ngo bigeze kure mu mushinga wiswe "**Metropolitan Network**". Ahandi se bite ko Kigali atari yo Rwanda yonyine? Kigali ituwemo ugereranyije na 10% by'abanyarwanda. **Imijyi yose nk'uko byanditswa na ministeri ishyinzwe ICT ituwemo na 14,8% by'abanyarwanda.** Iyo ministeri iradutangariza ko n'ubundi mu **Rwanda abatanze mudasobwa ari 2% by'abanyarwanda** bisa nko kuvuga ko twaba turetse no kubitaho igihe mu gihe 98% by'abanyarwanda basigaye ari bo umuntu yari akwiye gutekerezaho. Kubabeshya ko mu myaka 6 iri imbere bazaba babaho nko muri Singapour ni ukwikirigita ugaseka!

Icyakora uwatekereza neza mu rwego rwa za telefoni zigendanwa yakora ubufindo bwagera ku bantu benshi. **Nkurikije ijanisha ryatanze na ministeri yavuzwe hejuru, 53% z'abanyarwanda bafite telefoni igendanwa.** Igiteye isoni ni **ingo zifite**

telefoni zitimukanwa: Ibice bine (0,4%) gusa! Tuzi ko akenshi izi telefoni zitimukanwa arizo zifatirwaho umurongo wa murandasi bihendutse.

Telefoni zigendanwa rero zikeneye ko habaho ubufindo bukoresha SMS bwatuma ziteza abantu imbere. Kwibwira ko umuntu yabugura nk'uko u Rwanda rubugura gusa ntibyoroshye kubera ko ababwubaka akenshi bo bakoresha ubuhanga bushingiye kuri murandasi izakomeza guhenda igihe cyose nta telefoni zitimukanwa zihari kandi na ya metero yanyuma yo kwuzuzwa insinga "fibres obtiques" itarubakwa. **Aha ha SMS niho abafite ubumenyi mu kwubaka ubufindo mu Rwanda bakwihangira imirimo.** Na leta aho kwirirwa ihanga amategeko yo kwumviriza abantu yagombye guhanga ayo kurinda umwimerere mu byaba byavumbuwe mu bushakashatsi bw'ikorabuhanga; yagombye kwiga uko **yakworohereza abahanga mu bushakashatsi bwatuma inganda zijyanye na ICT zivuka.**

Iyo urebye ibyagezweho kugeza ubu, usibye iyo miyoboro itaragira icyo imara, usanga leta ishishikajwe n'imisoro gusa. Imishinga myishi ya ICT mu Rwanda usanga ari igusha ku misoro gusa. Mbese ko mbona bisa nk'umururumba! Mbere yo gutekeza imisoro umuntu yakagombye gutekereza ko umuntu abanza kubasha kwinjiza amafaranga mbere yo gusora. Ahandi hatejwe imbere mu Rwanda ni aho leta ibasha kuneka abenegihugu: Indangamuntu (National-ID), permis zo gutwara ibinyabiziga, abinjira n'abasohoka: Simvuze ko izo serivisi atari ngombwa ariko kuba ari zo zaje mbere hagakubitiraho n'itegeko rishishikariza kwumviriza bituma umuntu yibaza niba ICT igomba gukoreshwa gusa nk'intwari yo gukumira abatavuga rumwe n'ubutegetsi. Koko umutungo muke igihugu gifite ntiwari ukwiye gushorwa mu bikorwa by'ingirakamaro ko bitabuze?

Ibyo bikorwa by'ingirakamaro **mu gihe abanyarwanda benshi bagitunzwe n'ubuhinzi byakagombye kugaragara aho, hatekerezwa uko ICT yabafasha mu mirimo yo kwongera umusaruro.** Kubera ko ubunini bw'igihugu butatuma gikomeza gucungira ku buhinzi gusa hatekerezwa icyabusimbura buhoro buhoro bitewe n'ubumenyi n'ubushobozi abenegihugu bagezeho. Guhita umuntu yisumbukurza akubaka ibirenze kure cyane ibyo akeneye ni ugupfusha ubusa cyane cyane ko bishobora gusaza nta n'icyo arashobora kubikoresha. Tuzi twese ko muri ICT buri myaka nk'itanu haza ibintu bishya.

Mu rwego rw'ubuhinzi mureke dushimire MINAGRI yagerageje mu mushinga wayo witwa e-Soko gutekerezwa uko abahinzi bakoresha ICT ngo bamenye ibiciro bagurishirizaho umusaruro wabo badahenzwe kandi biciye kuri telefoni igendanwa. Kuba byose icyakora biri mu cyongereza sinamenya umubare w'abahinzi mu Rwanda bashobora kubyumva. Twizere ko bitakorewe kwereka gusa abaterankunga ngo batange cash abayobozi birire!

4. ICT mu ishyamba ryacu FDU-Inkingi no mu rugamba rwa demokasi muri rusange

FDU-Inkingi ifite abayoboke n'abayobozi ku isi hose; ntiyabasha rero gukora hadakoreshejwe itumanwaho rigezweho: VoIP, Teleconference, Fora (imbuga zo kwunguraniraho ibitekerezo), CRM (Customer Relationship Management), Homepages/sites internet (imbuga zo kuri murandasi), email umuntu atayibagiye n'ibindi n'ibindi... Mu gihe abayobozi, nta kundi byagenda, babikoresha cyane, usanga abarwanashyamba benshi bo barayobotse inzira ya Facebook na Twitter. FDU-

Inkingi naho irimo kugerageza kuhashinga imizi ngo abantu bajye babona amakuru ya politiki ku buryo bwihuse. Tugerageza no gusanga abantu aho bari. Niyo mpamvu twohereraza abantu email ngo tuboroherenze gushakisha amakuru.

Izo nzira zose kuzikoresha umuntu ahanganye n'ingoma y'igitugu biragora. Nk'ubu service yacu yo kwohereza SMS ku barwanashyaka bose mu Rwanda zisohotse kuri murandasi imenya ururimi umuntu yumva n'ubwoko bw'amakuru yarahagaze kubera impamvu z'umutungo, kubera ko mu Rwanda bashaka/baca amafaranga uwakiriye ubutumwa, no kubera ko itegeko rihana usoma ibyo leta itifuza ritarasobanuka ngo umuntu amenye ibyo ari byo.

Mvuze impamvu z'umutungo kuko dukeneye imfashanyo. Mbahamagariye kudufasha mukoresheje ICT, Ni ukuvuga muciyeye kuri site yacu: <http://www.fdu-rwanda.com> (murebe neza ko irangizwa na .com).

Ibyo bya site bitumye ngera ku bibazo twagize mw'ishyaka hakagira abarivamo bakajyana na site yindi. Iyo site niyo bakwirakwizaho impuha babizi neza kubera ko binyomozwa bakanga kubikuraho cyangwa ngo banerekane n'inyandiko zinyomoza ibyo bihuha.

ICT kuyikoresha uhanganye n'igitugu uri ishyaka rimwe ntibyahaza. Niyo mpamvu nabwira abantu bose ko mu rugamba rwo kwishyira ukizana ari ngombwa kwitabira za **social media networks (imbuga nkoranyambaga) bagakwirakwiza inkuru nziza** y'abatavugarumwe n'ubutegetsu za Twitter ntiziharirwe Mushikiwabo na Kagame gusa. **Uwo Kagame we yarantangaje asaba abanyarwanda bose kwitabira Twitter. Yibagiwe ko yabwiraga 2% gusa z'abo ayobora nako ateguka!** Ikindi abo bategetsu birengangiza ni uko hari uburyo bwo kukureba mu bwonko (Humor analysis) bahereye kubyo wandikanye cyangwa wavuganye amarangamutima. Iyo za NSA zo muri Amerika zumvirije isi yose nta muntu uba uhari wo kwumva ibyo wavuze: ni mudasobwa zibivangura mu gihe gito cyane. Zizi rero ko Kagame ari umubeshyi kuko byanze bikunze zamurebye mu bwonko.

5. ICT n'umutekano w'amakuru

Ibigezweho muri ino minsi byo kwumviriza isi yose byakozwe na NSA n'itegeko ryo mu Rwanda ryo kwumviriza, byerekana ko akenshi **umutekano muri ICT uhungabanywa n'inzego zakagombye kuba iz'umutekano**. Izo nzego zirarengera, zikibagirwa ko umutekano w'amakuru zakagombye kuwubahiriza nawo. **Mu bihugu bitegekwa ku gitugu ibi bituma abantu batizera gukoresha ibyuma bishobora gukoreshwa n'izo nzego zihindura ubutumwa zabonye**. Ibyo byagaragaye mu rubanza rwa Madame Victoire Ingabire Umuhoro, Umuyobozi wa FDU-Inkingi. Aha inzego za Kagame zamwitiriyeye inyandiko atanditse cyakora zibikorana ubuswa ku buryo byoroshye kubivumbura. Ubwo bukozi bw'ibibi bw'abanyagitugu butuma igihugu kidatera imbere kuko nta muntu uba wemerewe gutekereza ikintu gishya ngo kititwa ko kitari mu migambi ya leta. **Ndashimira umuyobozi wungirije wa FDU, Bwana Boniface Twagirimana, wamaganye ku mugaragararo itegeko ryimakaza ingeso mbi yo kwumviriza no kujajwa [4]**.

Ikindi kandi utekereza umushinga we ntaba ashaka ko abamwumviriza bawushyira mu bikorwa we agishakisha amafaranga yo kwushoramwo. Ibyo nibyo bihangayikishije inganda mu bihugu byateye imbere kuko hari ababa bashaka

kumenya ibyo bahugiyemo bavumbura. **Mbese umupolisi mu Rwanda amenye umushinga mwize umuntu ateganya ntiyabizimurira bene w'abo nyir'umushinga agataha amara masa?** No muri Business rero amategako yo kwumviriza ni mabi.

Ikindi ntawamenya icyo leta y'u Rwanda yatekerezaga ihitamo ko **National Data Center** ibika **amakuru ku benegihugu n'ay'abikorera ku giti cyabo** (Public and Private sector applications and services) **mu bicu** (cloud computing). Kubikora ni uguha icyanzu abumviriza. Niba bakeka ko ari abapolisi babo gusa ni ukwibeshya. Bibuke ko za nsinga zica za Uganda na Tanzaniya zigera muri NSA icyo za Amerika ziciye mu nyanja.

Ku bantu ku giti cyabo tujye twibuka ko **ibanga nyabanga ari irya babiri, imbonankubone**. ICT yo ni iyi isi yose, icyo ukozeho cyose hari abashobora kucyumviriza. Abarwanya ingoma z'ibitugu ubwo bumvireho. Nimutekereze neza ibijya kuri mudasobwa mbere yo kubishyiraho. **Mutagira ubwoba iyo muvuga ukuri kuko kwo guca muziko ntigushye**. Umuntu ashobora kugabanya impanuka (risks) ashyira ubufindo burwanya imigera kuri mudasobwa ye (anti-virus). Zituma abamviriza babanza kwiyuha akuya mbere yo kubigeraho.

6. Umwanzuro

ICT ikoreshejwe neza yatuma dutera imbere tukanateza n'igihugu cyacu imbere. Ishobora gutuma twongera umusaruro mu bindi dukora bitandukanye ndetse hakavuka n'indi mirimo mishya. Kubera ko hari abashobora kuyikoresha ibihemukira abandi tugomba kubamagana tugaharanira ukwishyira ukizana n'amahoro. Nta mahoro ku mutima no mu gihugu nta mwanya wo gutekereza uko twabyaza ICT umusaruro. Na bike igihugu cyashoyemo amafaranga menshi bishobora guta agaciro ntacyo biramara kubera ko iryo koranabuhanga rifite umuvuduko uhambaye.

Inyandiko zifashishijwe

¹ Hifashishijwe inyandiko mwasanga kuri:

http://en.wikipedia.org/wiki/Information_technology

² Iby'ingenzi umuntu yasoma ngo abashe kugereranya Singapur n'u Rwanda mwabisoma hano: <http://fr.wikipedia.org/wiki/Singapour>

³ Inyandiko ya ministri ushinzwe ICT igaragaze mu maso ya leta uko byari byafashe mu mwaka wa 2012: <http://admin.theiguides.org/Media/Documents/Rwanda-ICT-Profile-2012.pdf>

⁴ Itangazo ry'umukuru wungirije ry'ishaka FDU-Inyingi ryamagana itegeko ryo kwumviriza mu itumanaho: <http://www.victoire2010.info/?DocID=0000000791>