dta
Defence Technology Agency

DTA Misc 2016/1
NR 1689

Learner Profiles Survey 2015 - Key Facts

James T Kerry
January 2016

LEARNER PROFILES SURVEY 2015

KEY FACTS

Introduction

- This document provides key facts from the Learner Profiles Survey 2015. It is a high level overview and much greater detail is available on request.

- The 2015 survey, conducted between 28 Sep and 23 Oct, was the third of five annual surveys proposed.

- 1188 valid responses were received, a response rate of 40%.

- The survey methodology is given at Appendix 1.

- This format aims to provide concise, easily digestible results. Any feedback (positive or negative) would be much appreciated.

- As an incentive, each successfully completed survey raised $1.50 for charity. This was sponsored by Ordnance Developments Limited. The result was a donation of $1720 to the NZ Fallen Heroes Trust.

Timothy Gray	James Kerry	January 2016
University of Auckland	Research Leader	DTA MISC 2016/1
	Defence Technology Agency	NR 1689

Access to Technology

- The vast majority (99%) of respondents accessed the Defence Information Exchange System (DIXS) at their place of work.

- Less than 1 in 10 accessed DIXS from a recreation area or classroom. However, 16% accessed DIXS from home, an increase of 5% over previous years.

- Internet can be considered ubiquitous. Only one respondent did not access the internet during the previous 12 months.

- The most popular places to use the internet were at work, at home and on mobile devices (Figure 1).

- At home, the most common internet connection was broadband (54%, down 5% from 2014 (1)) via the copper wire network and mobile broadband (47%).

- The Ultra-Fast Broadband (UFB) initiative has the aim of connecting 75% of New Zealanders with fibre by the end of 2019. Fibre is capable of speeds of 100Mbps. The initiative started in 2011 and by September 2015 had 133,684 connected users (2). In this survey 27% of respondents reported using UFB, an increase of 8% over 2014.
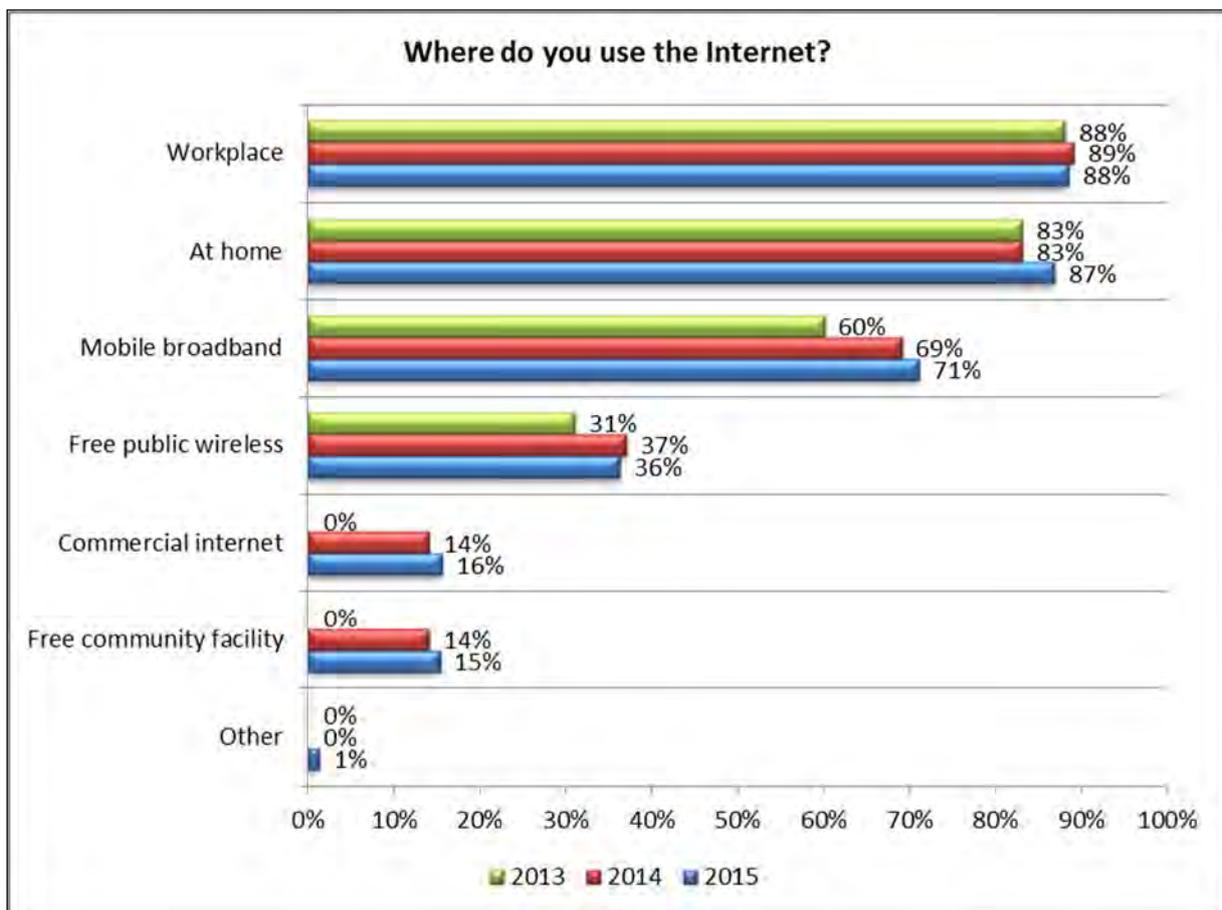

Figure 1: INTERNET - place of use

Use of Technology for Defence Force Training

- Most people (84%) had undertaken some training during the previous twelve months. 43% had undertaken both professional and miscellaneous training. These figures are little changed from 2014 (see Figure 2).

- Of those who had undertaken training:

    – The average number of course modules taken was 3.

    – DIXS was the most common technology for courses.

    – Of the uniformed Services, Navy made most use of simulators.

- Use of DIXS and the internet for training has grown steadily but slowly over the past three years. The relative surge in miscellaneous DIXS training in 2015 may be attributed to the introduction of a new talent management system that requires mandatory online training (3).
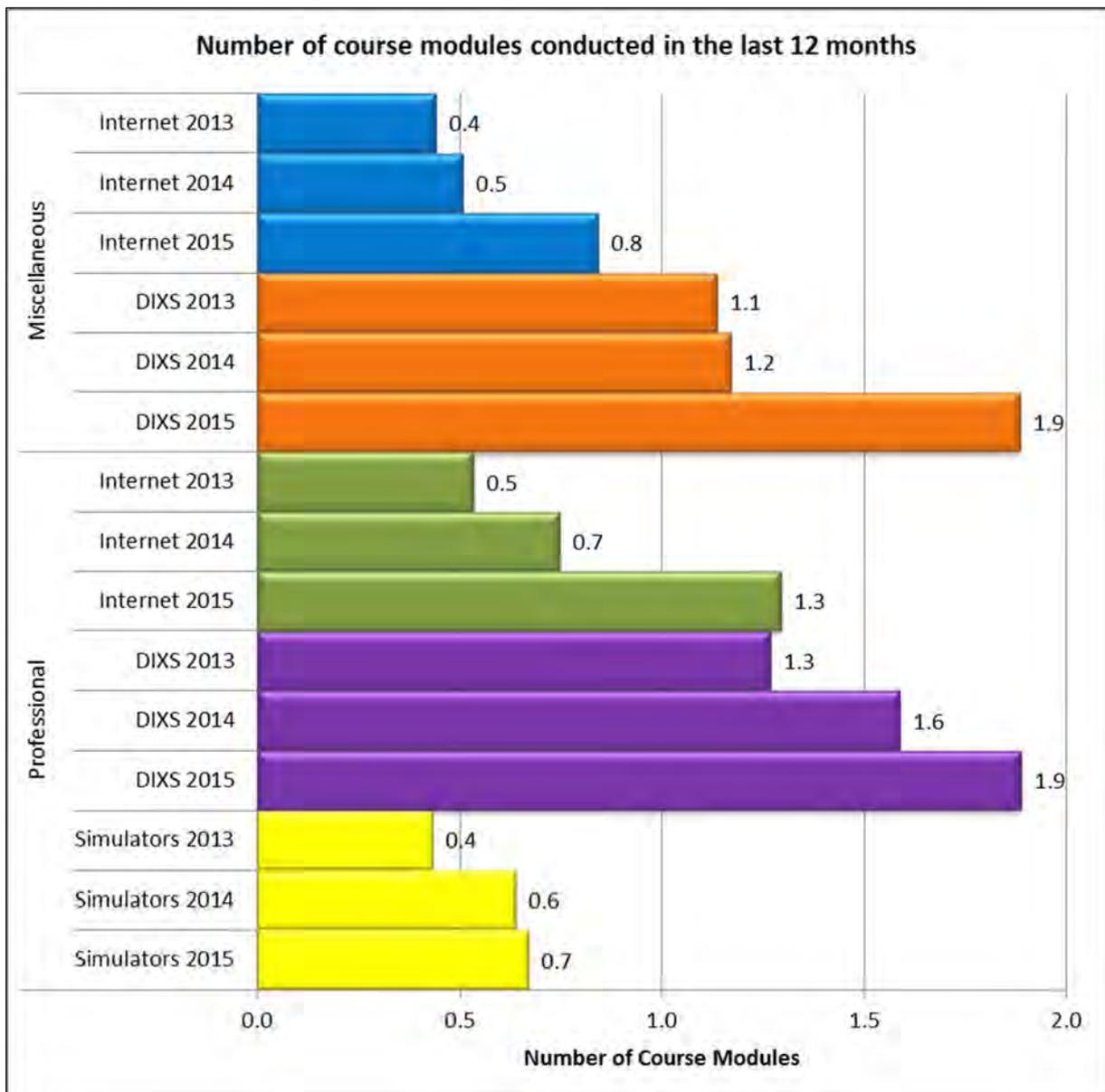

Number of course modules conducted in the last 12 months

Miscellaneous		
Internet 2013	0.4
Internet 2014	0.5
Internet 2015	0.8
DIXS 2013	1.1
DIXS 2014	1.2
DIXS 2015	1.9

Professional		
Internet 2013	0.5
Internet 2014	0.7
Internet 2015	1.3
DIXS 2013	1.3
DIXS 2014	1.6
DIXS 2015	1.9
Simulators 2013	0.4
Simulators 2014	0.6
Simulators 2015	0.7

Number of Course Modules

Figure 2: Use of DIXS, INTERNET and SIMULATORS for training 2013-2015 (6)(1)

Use of Tools, Provided by the Defence Force, in Relation to training

- The top five soft tools (expressed in terms of number of working days used per person per annum) were:

  - Email 113

  - Word processing 77

  - Telephone calls (landline) 67

  - Spreadsheets 66

  - Telephone calls (mobile) 39

- There were distinct variations between the Services with Army favouring texts, mobile phone calls, email and presentation software; while Navy used simulations and a wide variety of 'other' (Figure 3).
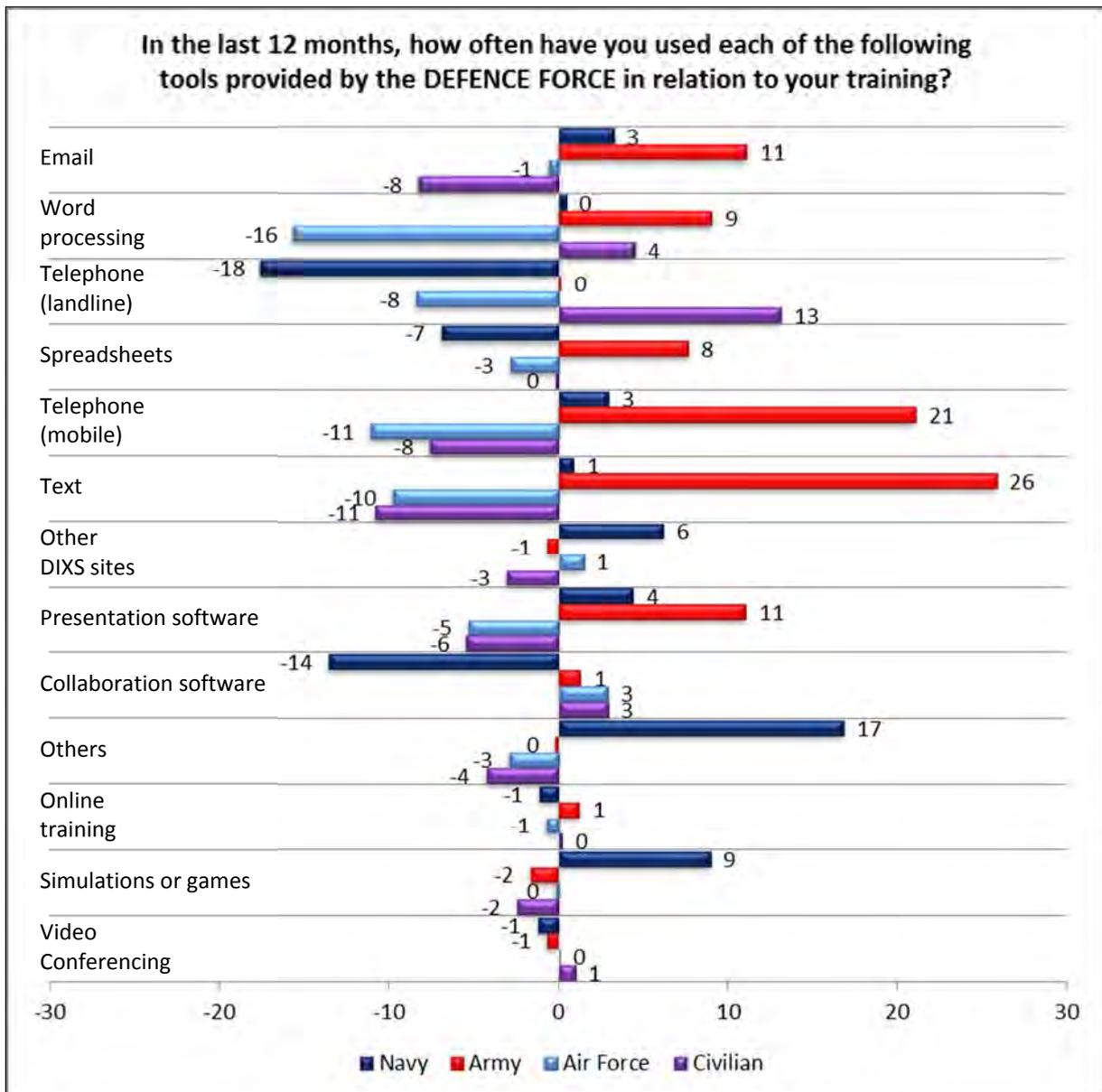

Figure 3: Variation from average by Service in terms of working days

Use of Personal Technology to Supplement Defence Force Training

- Service personnel used their own software, to some extent, to support Defence Force Training (Figure 4). Figures are slightly down from 2014.

- Personal equipment used to support training consisted primarily of (expressed in terms of number of working days used per person per annum):

  – Telephones (mobiles and fixed line)   93

  – Computers and laptops   52

- Asked whether it would be beneficial to use some of these personal tools software and apps in Defence Force training, the overall response was "Don't know". The score was 0.39 (scale -1 (No), 0 (Don't know), +1(Yes)) down from 0.44 in 2014.
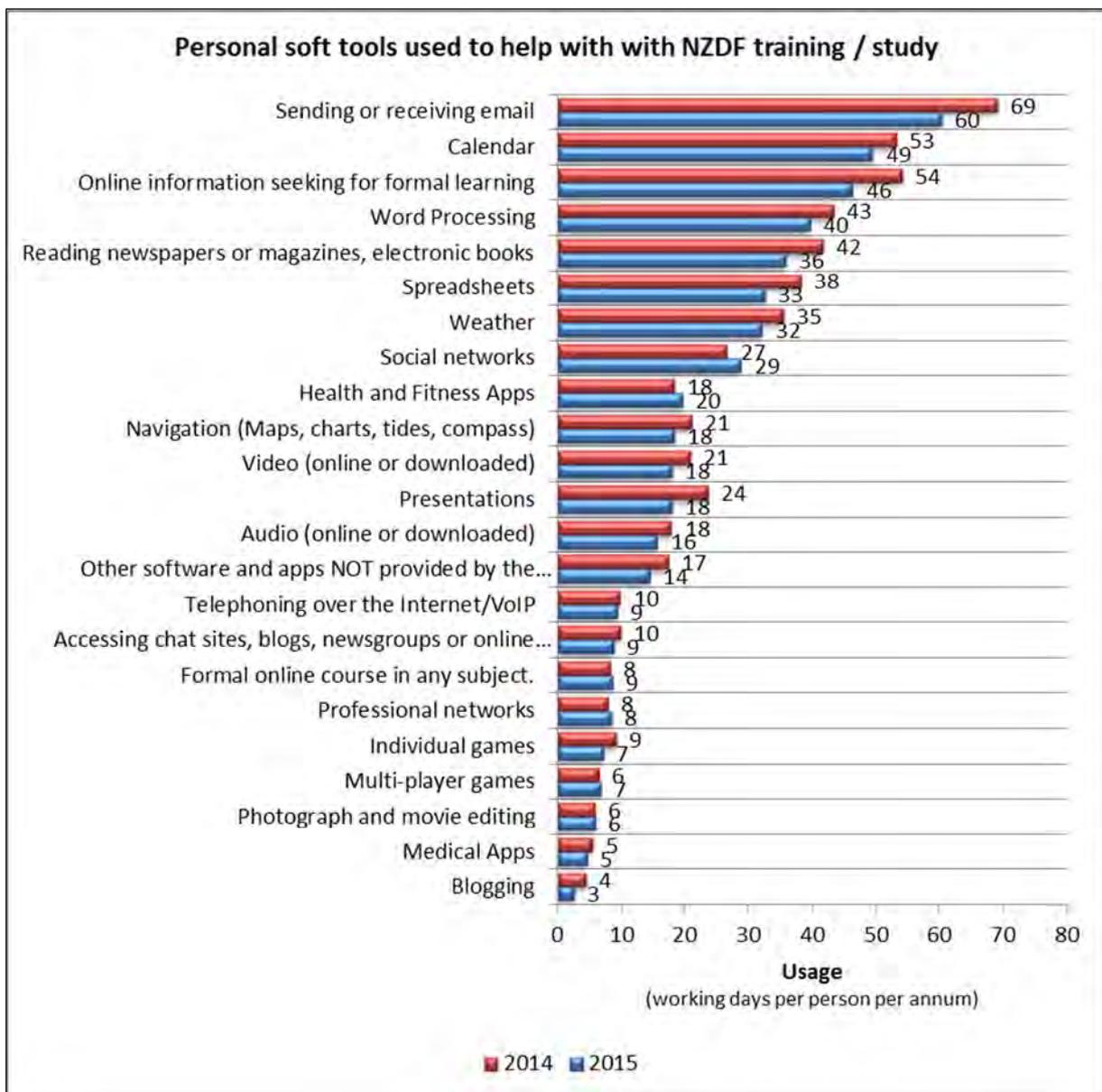

Figure 4: Personal support to NZDF training

Mobile Device Operating Systems

- Which operating system was most widely used?

    – Most smartphone users chose Android (Figure 5).
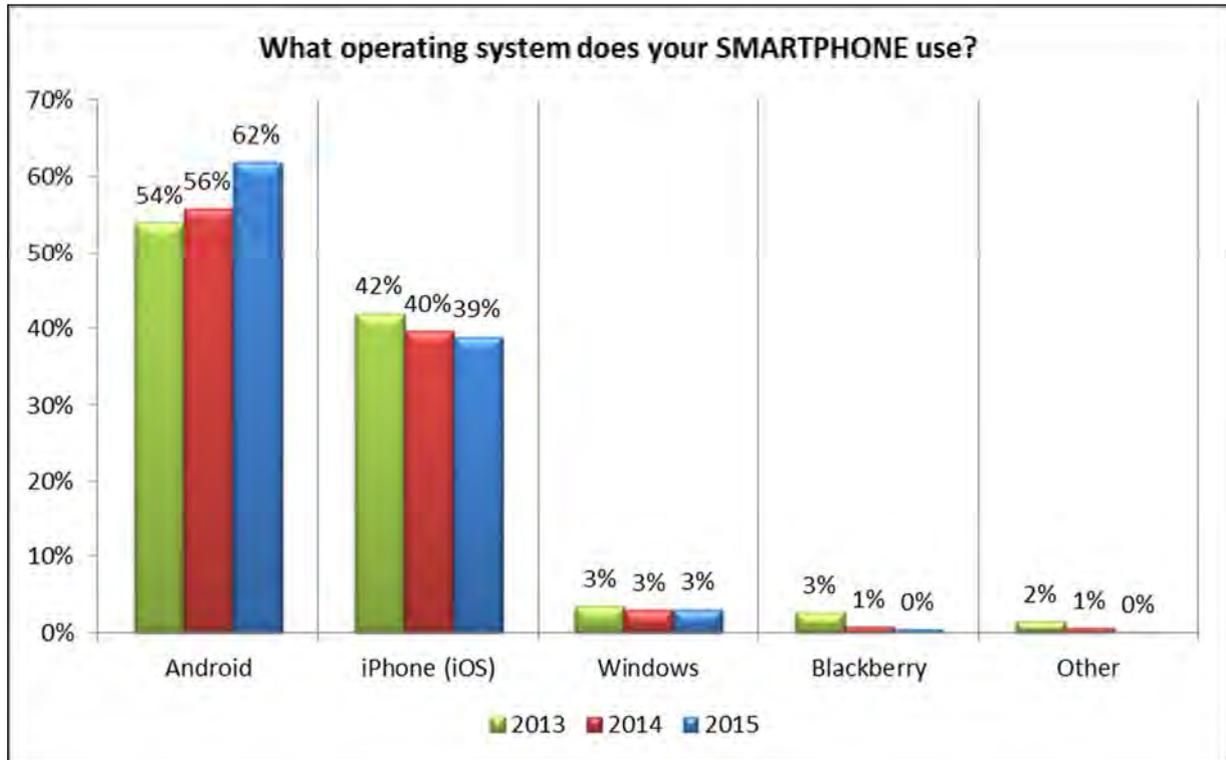
    – Tablet users favoured iOS (Figure 6).

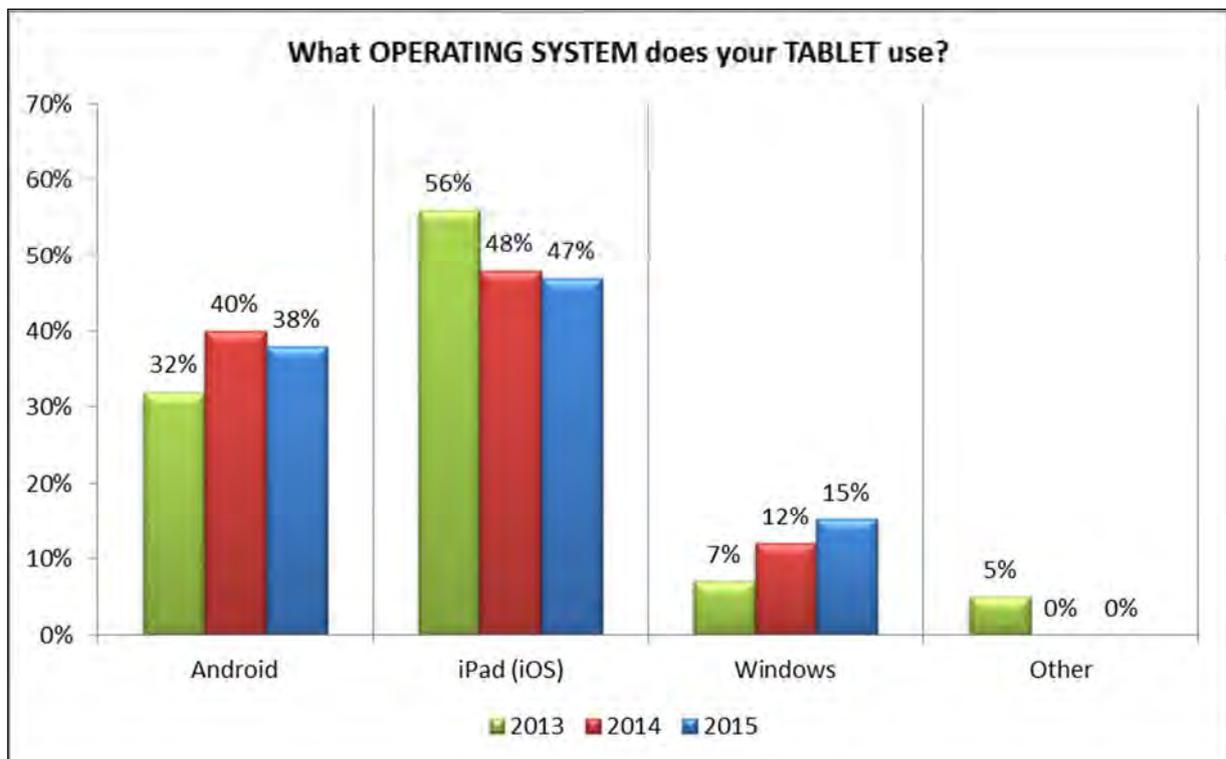Figure 5: SMARTPHONE Operating Systems

Figure 6: TABLET Operating Systems

Personal Use of Technology

- The personal computer or laptop was the most regularly used device, as it was in 2013 and 2014 (Figure 7).

- Smartphone use increased slightly from 2014 and tablet use was steady.

- Smart TV use increased.

- Digital and video camera use continued their decline. Their use has halved in three years, being replaced by smartphones and, to a lesser extent, tablets.

- Activity trackers (e.g. Fitbit) (11%) and smartwatches (3%) were introduced as an option for the first time but are a minority interest.

- Most people used three to five different devices regularly.

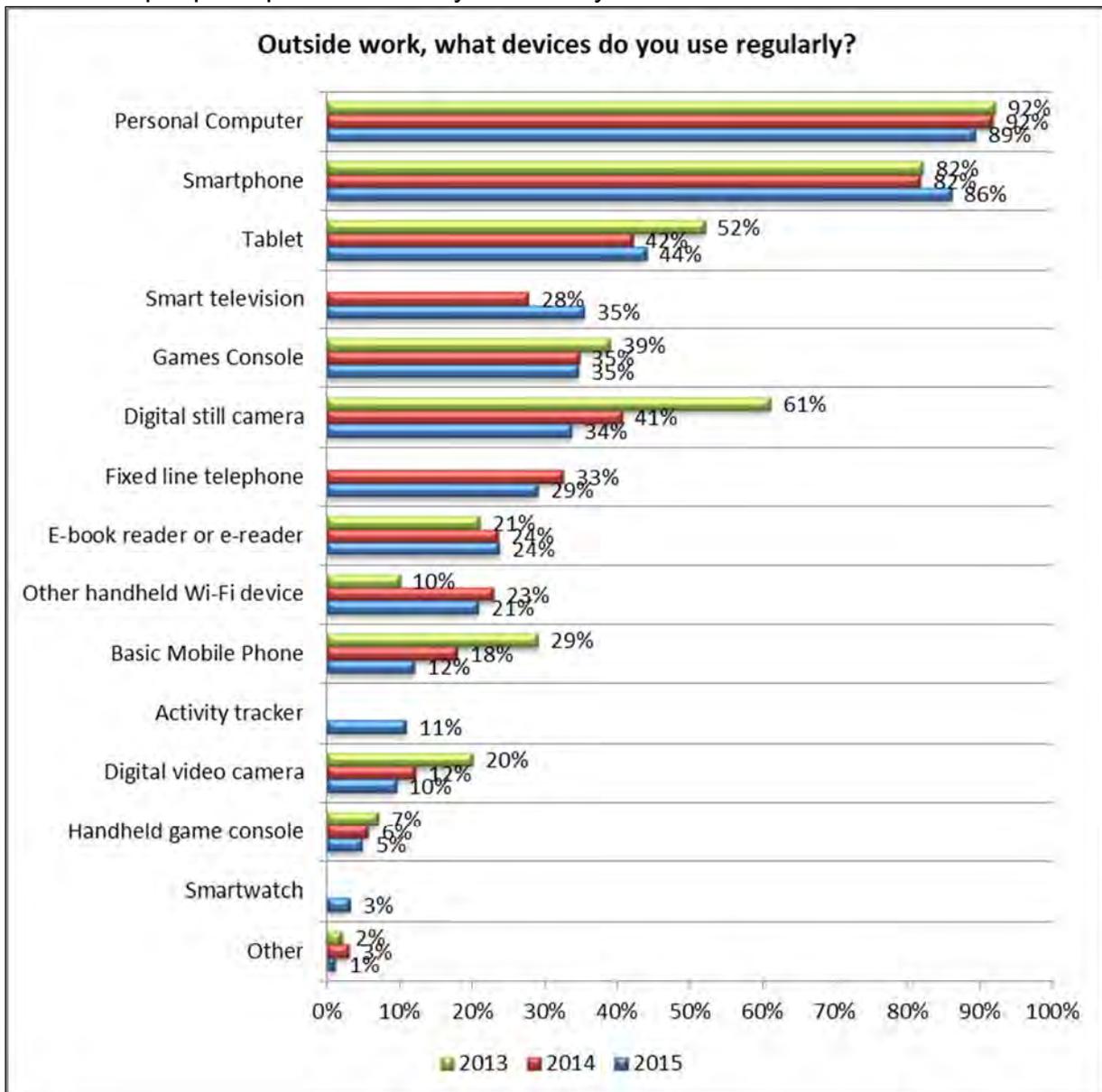- Four people reported that they commonly used ten or eleven different devices.

Figure 7: Use of personal devices

Personal use of the INTERNET

- We asked what NZDF personnel used the internet for outside of work, then grouped their responses based on the categories / catalogues used by 'Google Play'(4) and 'Apple iTunes App Store'(5). See Appendix 2 for details. Primarily, the internet was used for (Figure 8):

  - Communication (email, Skype and blogs).

  - Finance (internet banking and banking apps).

  - Lifestyle (buying and selling goods and services, or looking for a job).

  - Entertainment (games, music and video (video streaming has increased significantly (9.1%), possibly due to the impact of online media such as Netflix)).
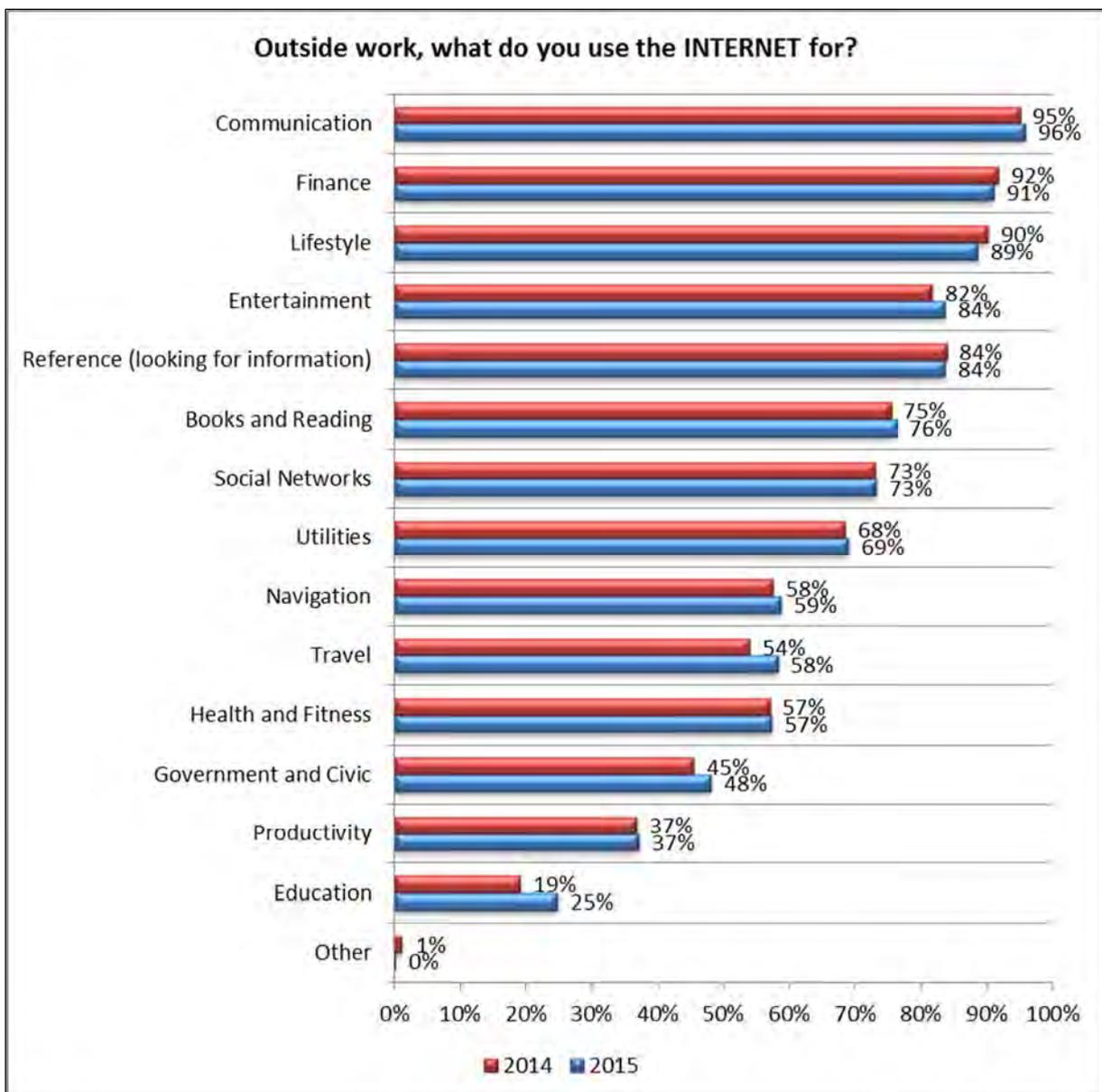
  - Reference (looking for information).

Figure 8: Personal Use of the INTERNET

Personal use of Mobile Phones and Tablets

- Mobile phone and tablets usage was up slightly from 2014 across all categories. The top five personal uses were (Figure 9):

    - Communication (mainly text messaging, voice calls and email).

    - Phone tools (alarm clock and FM radio utilities, taking photographs and the torch functionality, in that order).

    - Navigation (maps, tides, compass for car, boat, bike or tramping) and weather.

    - Entertainment (music and audio, media and video and games (both individual and multi-player)).

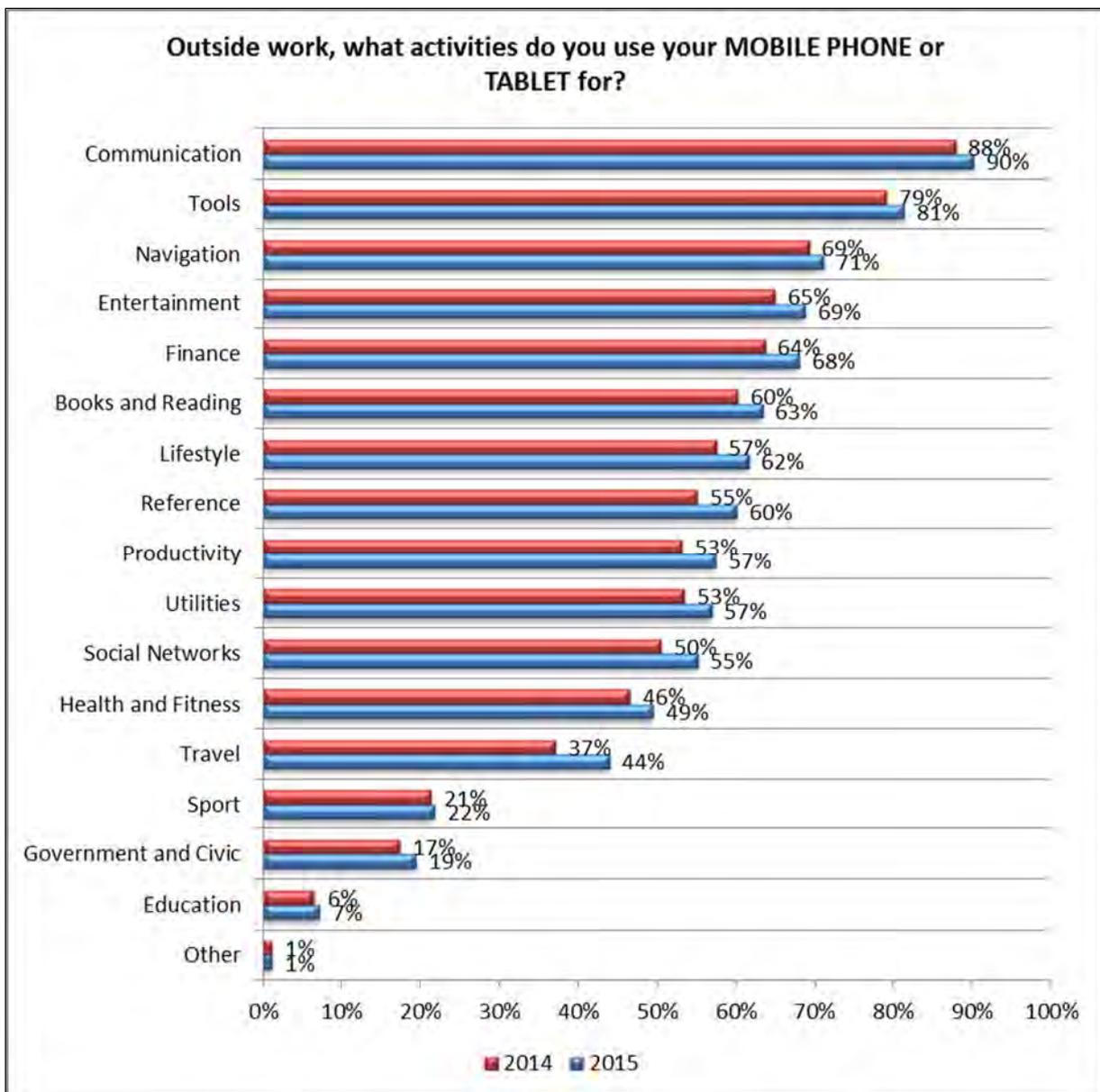   - Finance (internet banking and banking apps).

Figure 9: Personal Use of Mobile Phones and Tablets

Which NZDF Resources Would You Like to Access on a Mobile Device?

- In 2014 Navy personnel indicated that games to assist in learning and interactive text books were just as important as instructional videos. This year the difference among the uniformed services was less marked but if the civilian responses are separated the order of preference was (Figure 10):

–	Manuals and documentation	75%
–	Instructional videos	54%
–	Communication (e.g. learner / learner or learner / instructor instant messaging, texts and emails)	52%
–	Games to assist in learning	51%
–	Interactive text books	48%
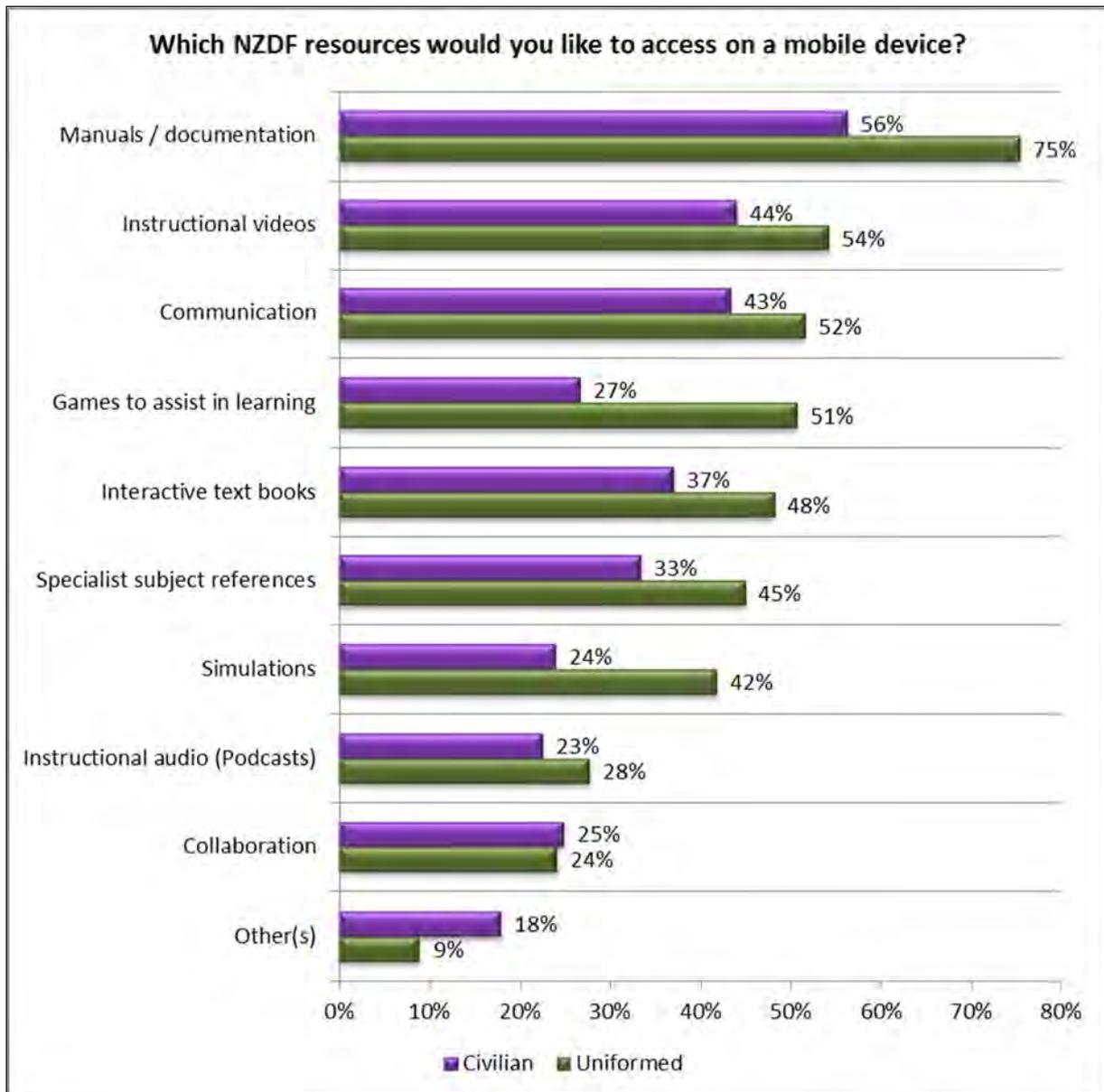
Figure 10: NZDF resources on mobile devices – uniformed and civilian preferences

Would you use your own mobile device to access DEFENCE FORCE learning materials / activities?

- 57% of respondents (Figure 11, red line) would be willing to use their own mobile device; this is a drop of 6% on the 2014 responses. Supervisors, those with a length of service from 4–5 and 10–11 years, Technical Branches and the 15–24 age group all dropped by more than 10%. This may just be a one off result but this potential trend needs to be monitored in future surveys.
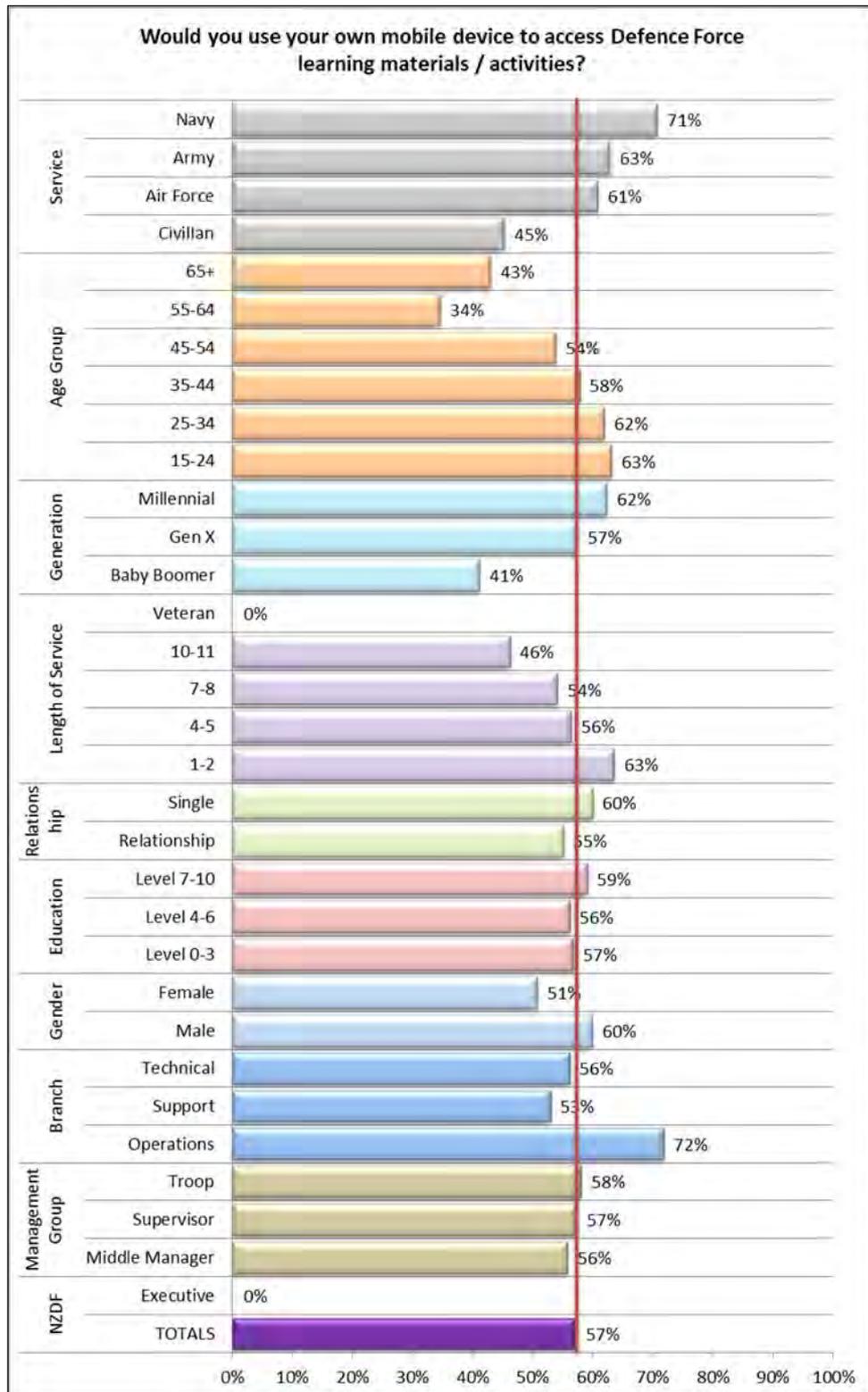
Figure 11: Willingness to use own mobile device for NZDF learning

How Much Would you be Willing to Spend on Purchasing or Upgrading a Mobile Device to Access Defence Force Learning Materials / Activities?

- Of those willing to use their own mobile device to access Defence Force learning materials / activities, 24% were willing to invest in an upgraded device. The value they were willing to invest is shown in Figure 12.
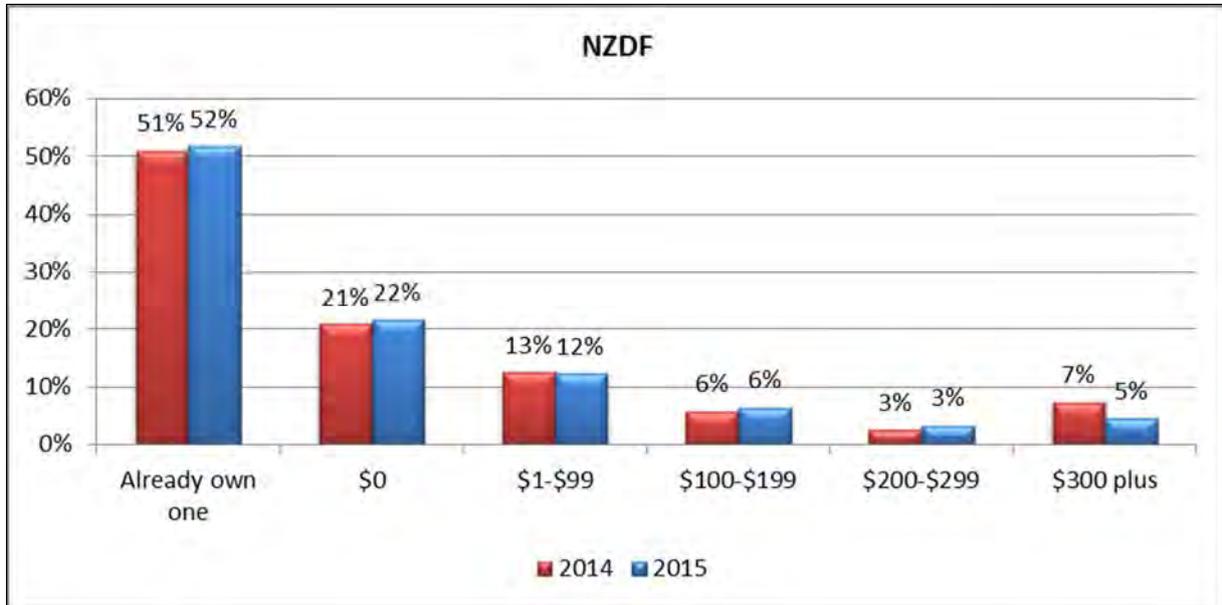
Figure 12: Willingness to upgrade mobile device

How Much Would you be Willing to Spend on Purchasing or Upgrading a Mobile Data Plan Per Month to Access Defence Force Learning Materials / Activities?

- Similarly 26% were willing to pay for more data to allow access to Defence Force learning materials. The value they were willing to invest is shown in Figure 12.
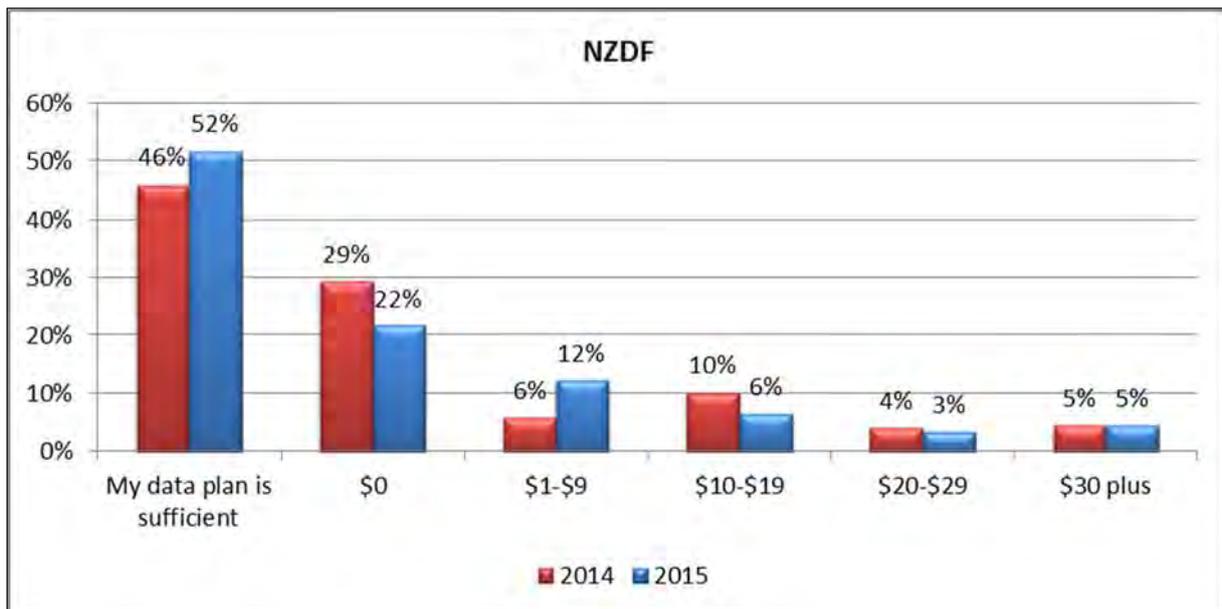
Figure 13: Willingness to upgrade mobile data plan

NZDF Use of Technology

- Across the NZDF, respondents agreed with the top four statements (Figure 14). They were 'UNSURE' about the remainder but sentiment remained on the positive side of the scale.

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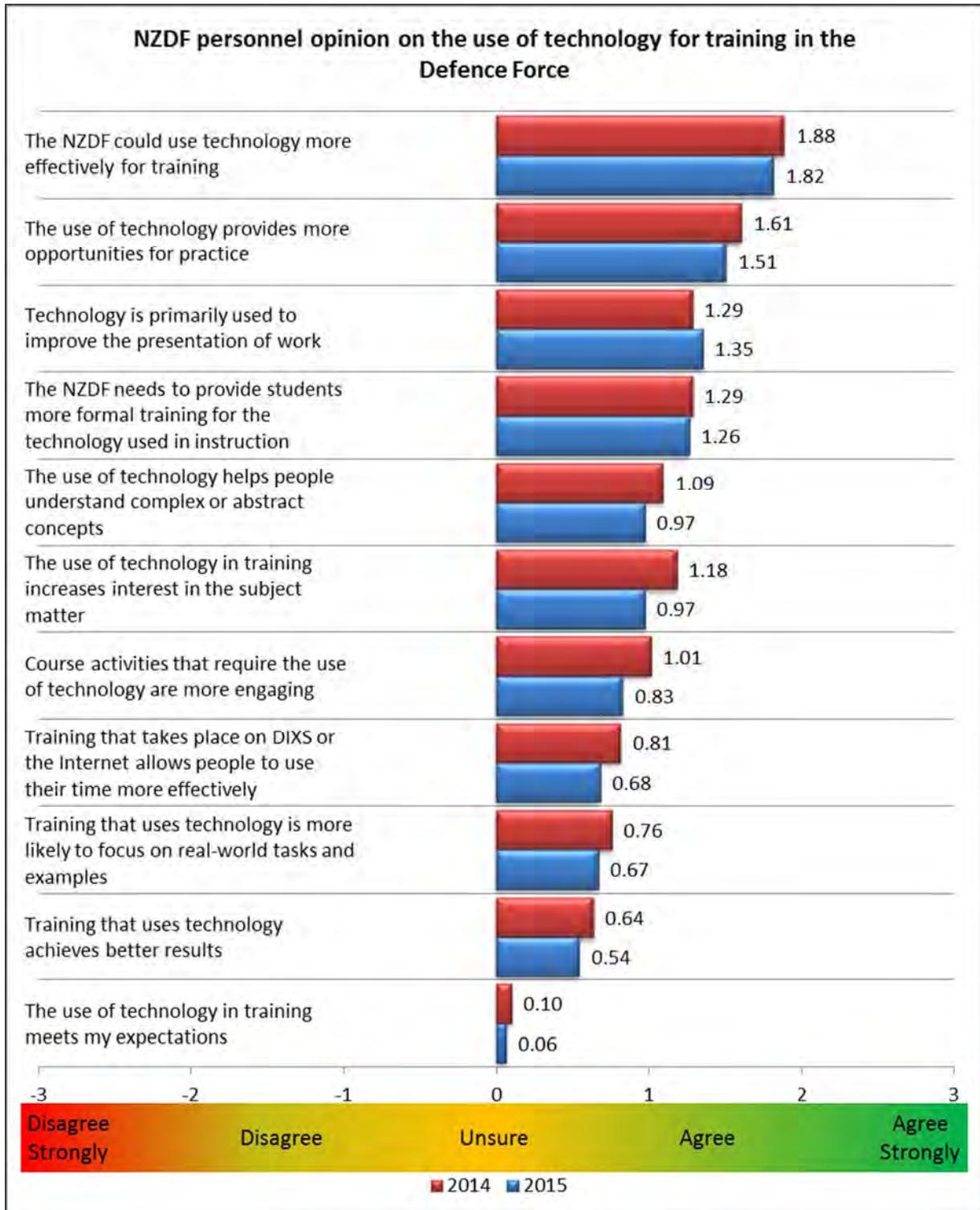
Figure 14: NZDF opinion on the use of technology for training

- Figure 14 disguises some clear disparities among the Services. In particular, Navy was less convinced in any of the statements with sentiment clearly leaning to the negative to all statements (Figure 15). The result implies a paradox where Navy personnel were unsure whether technology could be used more effectively for training but disagree that it met meet their expectations. This requires some further investigation.
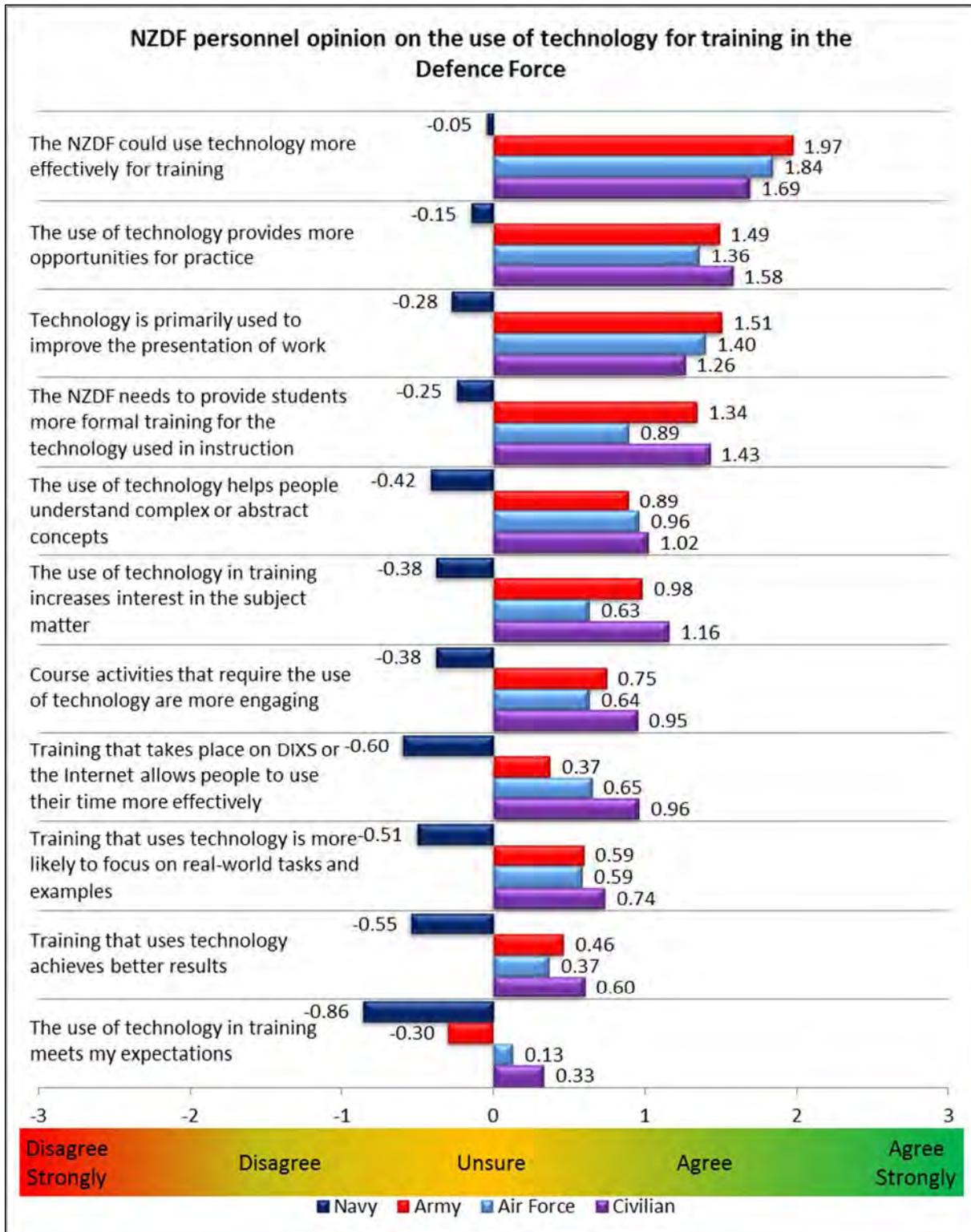
Figure 15: Service opinion about the use of technology for training in the NZDF

Conclusions

- Access to the internet can be considered ubiquitous for NZDF personnel.

- Most people had conducted some form of training during the previous 12 months, averaging 2–3 course modules. The use of technology for training was limited but it is growing steadily from a low base.

- Defence tools, such as email, word processing, telephone calls (including mobile and texts) and spreadsheets, were the technologies most often used for training. There are distinct differences in use among the Services.

- Personnel used their own equipment, apps and software to support Defence training. Primarily basic tools such as email, calendar, word processing and internet research but also social networks, navigation and weather, and health and fitness apps.

- Most people had between three and five devices they used regularly. These were most likely to be a PC (or laptop), a smartphone and a tablet. The use of digital and video cameras continues to decline steadily as smartphones now fulfil these functions. Smart TV use is increasing. Activity trackers and smartwatches were introduced into the survey options for the first time.

- Smartphone users preferred Android as their operating system but tablet users preferred Apple iOS . Windows is making steady gains in the tablet market.

- Personnel used the internet for communication (email, Skype and blogs), finance (internet banking and banking apps), lifestyle (buying and selling goods and services, or looking for a job), reference (looking for information), entertainment (games, music and video) and reading newspapers or magazines and electronic books.

- Tablets and smartphones were, unsurprisingly, used for communication. Basic functions, such as the alarm, FM radio, camera and torch, were widely utilised. Weather apps were popular and the GPS functionality was used for navigation. Rounding out the top five uses were entertainment (music, games and video) and finance (internet banking and banking apps).

- Demand for manuals and documentation to be made available on mobile devices tops the list of desires. For uniformed personnel, instructional videos followed by communication (e.g. learner/learner or learner/instructor instant messaging, texts and emails) and games to assist in learning, are the next most important.

- 57% (down 6%) of respondents were happy to use their own mobile device for learning, but not if they had to pay for it by upgrading their device or mobile data plan.

- There was general agreement that the Defence Force could use technology more effectively for training but Navy had very different views than the other Services.

- This survey was administered via DIXS and the internet; an overall response rate of 40% was satisfactory. However, the response rates indicate that Army (24%) and Navy (34%) had more difficulty gaining access to DIXS terminals and then to the internet (Internet Trough Desktop (ITD)), compared to Civilians (65%) and Air Force (50%) personnel.

Recommendations from this Study

- Provide junior Army personnel with more DIXS terminals in readily accessible areas, such as recreation spaces. Ensure all NZDF personnel have the correct competencies for the DIXS and the learning environments.

- Ensure deployed personnel (particularly those at sea) are not disadvantaged by being excluded from the learning environment (as they are now).

- Encourage personnel to bring their own devices to the classroom. Provide devices to those who do not wish to (or cannot) bring their own.

- Make manuals and documentation available in a mobile environment so that they can be easily brought to the situation they are needed.

- Develop and acquire YouTube-like videos. These videos are cheaper and faster to produce than sophisticated 3D games and are quite suitable for training support. They appeal to a broad range of respondents.

- Repeat the survey in 2016 in order to identify trends and changing attitudes.

Wider Recommendations

- Enable a learning environment (including base Wi-Fi, deployed units and home users) so that NZDF personnel can access learning at no cost anywhere, anytime.

- Ensure deployed personnel (particularly those at sea) are not disadvantaged by being excluded from the learning environment (as they are now).

- Broader use of simulation in general training should be considered in order to efficiently deliver competent people to front line units ready for their role.

- Make more use of existing online (e.g. YouTube, Khan Academy) resources for learning.

- Collaborate with other nations and institutions to acquire and share common e-learning and m-learning modules.

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METHODOLOGY

Conduct

- The survey was conducted between 28 Sep and 23 Oct 2015. The full methodology is described in DTA Report 372 (6).

- The survey utilised LimeSurvey (7) software hosted on the DTA server. This enabled it to be conducted via the internet, either from DIXS via Internet Through Desktop (ITD), or from a personal device.

- For those deployed to ships (where ITD is not available), or for those who experienced difficulty accessing the DTA servers, an Adobe Acrobat form was provided.

- A total of 2949 invitations were sent out in batches of fifty over three days (this avoids swamping the servers with eager respondents). LimeSurvey accounted for 1136 completed surveys; 57 Adobe Acrobat Forms were received in addition. This gave a response rate of 40% (the target was 30% or 885). Considering the survey coincided with the school holidays and preparations for a major NZDF exercise this response was excellent and on a par with NZDF surveys such as the Ongoing Attitude Survey 2014 (42% response rate)(8).

- Reminders were sent weekly on a Tuesday or Wednesday. This allowed those returning to work from time away to catch up with their emails. Figure 16 shows that without reminders it was unlikely the target would have been achieved.
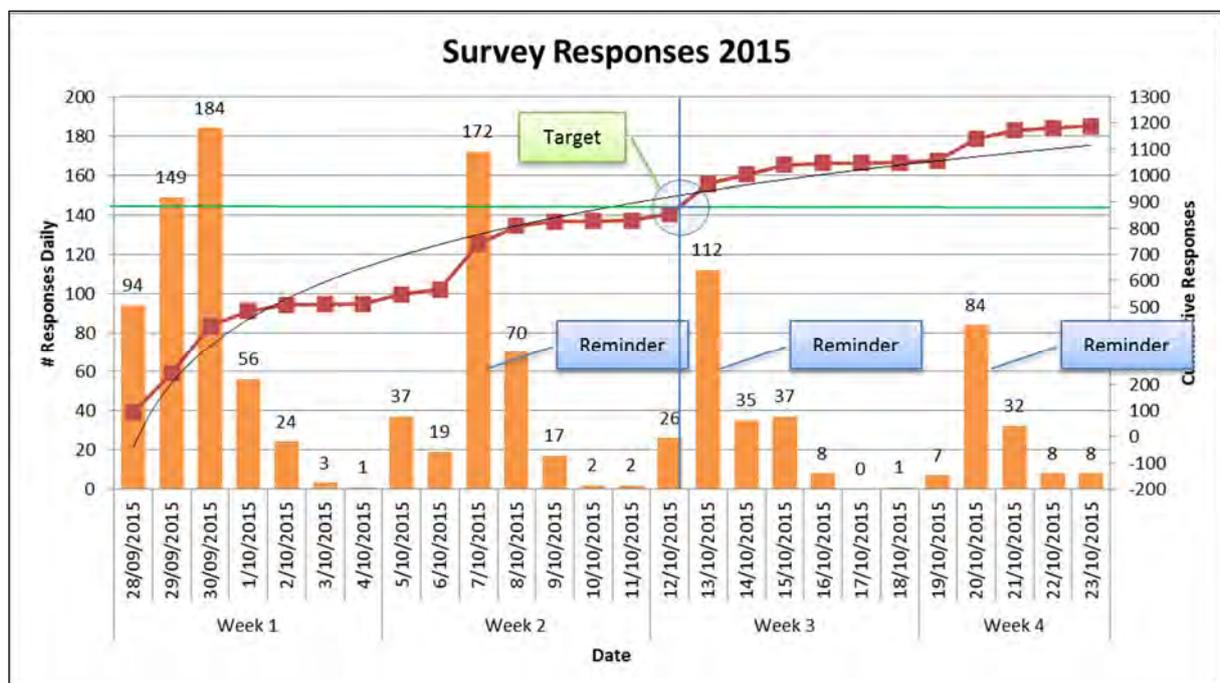
Figure 16: Survey response profile

- It is considered that the difference in response rates among the Services (Figure 17) reflected the ease of access to DIXS (ITD). Army troops have limited access to DIXS (ITD) and Navy personnel posted to sea have no access to DIXS (ITD).
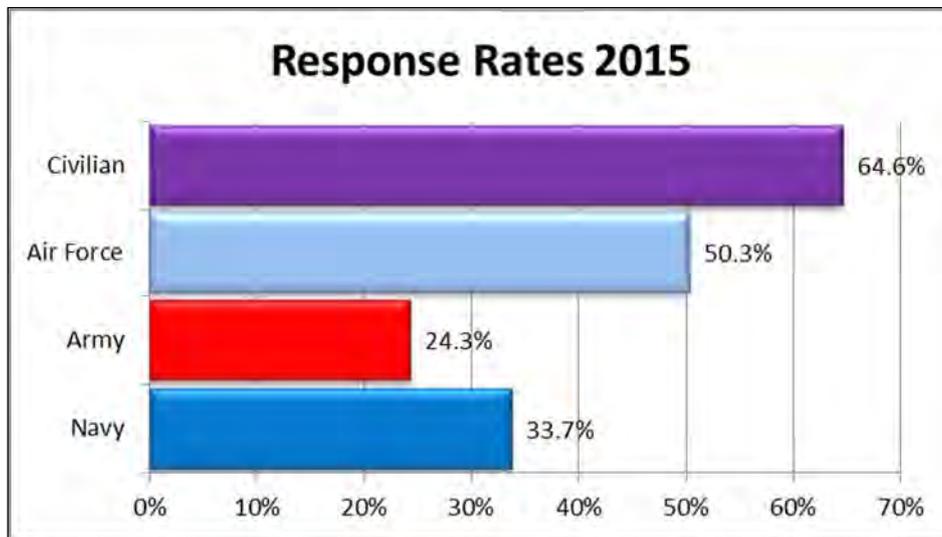
Figure 17: Response rates by Service

Incentives

- Previous surveys have offered a tablet computer to the value of $500 to encourage personnel to participate, this year a new approach was adopted. Through sponsorship, every completed survey raised $1.50 for a charitable cause. The sponsorship was provided by Ordnance Developments Ltd., and the NZ Fallen Heroes Trust was selected as the beneficiary. It is considered that this approach was successful and it is intended to repeat this method in future surveys.

- The total raised in 2015 was $1720 and the presentation was made at the RNZN Museum at Torpedo Bay on Friday 11 December (Figure 18).

- The effectiveness of this type of incentive was difficult to quantify. Response rates were down a little from previous surveys but still good considering the circumstances (see above). One person called to ask how she could make the donation! It is certainly a much greater burden on the administrative team than buying a tablet but, on the whole worth the effort.

Survey Form

- The 2015 Survey Form received only minor modification and corrections from 2014. The following options were added to devices that individuals may use regularly:

    - Dedicated activity tracker (e.g. Fitbit, Mio, Garmin Vivo)

    - Smartwatch (e.g. Apple watch, LG G watch, Asus Zenwatch, Sony smartwatch, Pebble)
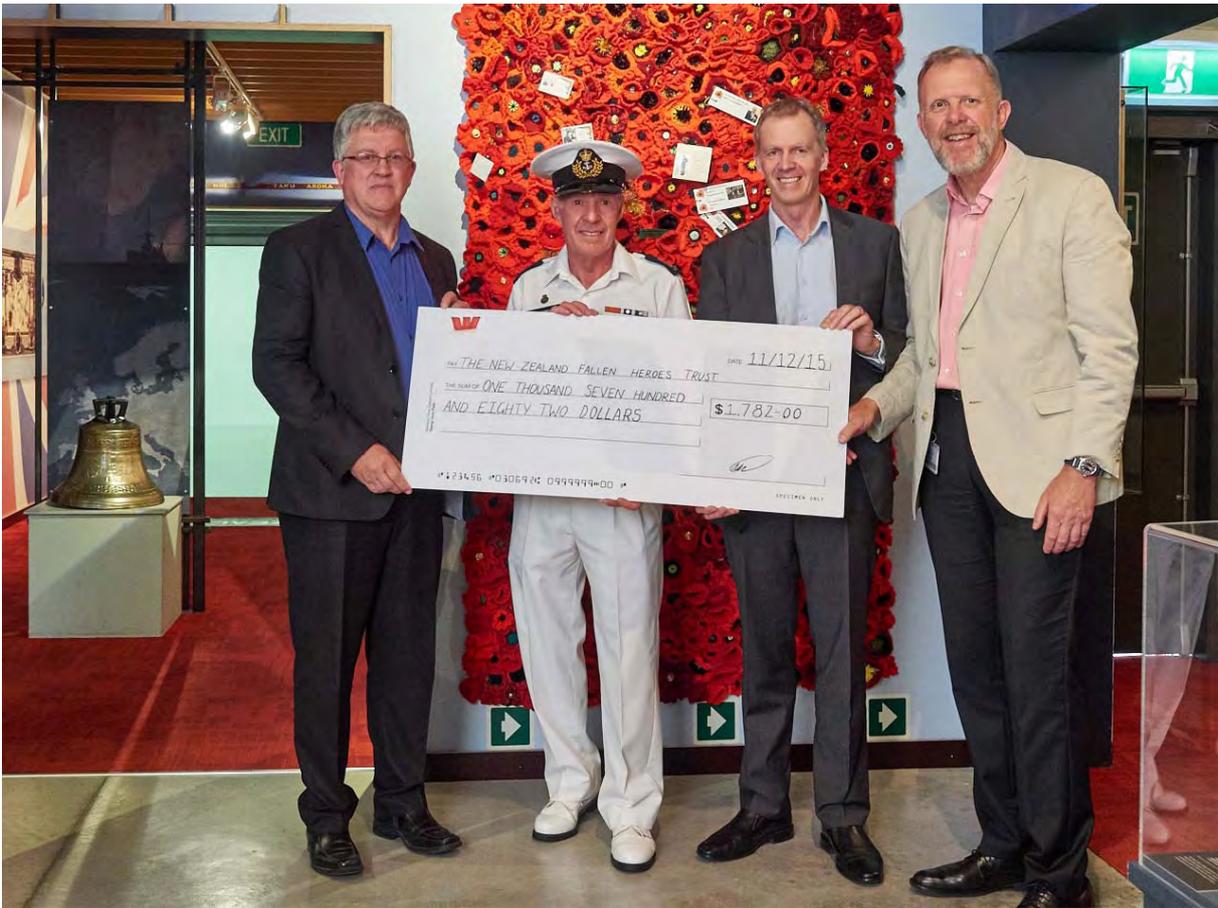
Figure 18:Mr Eddie Daley (Ordnance developments Ltd.) presents a cheque to NZ Fallen Heroes Trust represented by WO Mick O'Carroll in the presence of Dr Brian Young (Director DTA) and James Kerry.

Groups and Sub-groups

- The responses to each question are available from the authors as an overall result and are also broken down into sub-groups (Table 1).

- The percentage make up of each group is given both in proportion to the sample size and responses:

Group	Sub-group	Sample		Responses	
		#	%	n=	%
Management	Executive	9	0%	6	1%
	Middle Manager	470	16%	280	24%
	1st Line Supervisor	1109	38%	505	43%
	Troop	1361	46%	397	33%
Branch	Operations	836	28%	209	18%
	Support	1288	44%	649	55%
	Technical	825	28%	330	28%
Gender	Male	2275	77%	827	70%
	Female	674	23%	361	30%
Education	Level 0-3			546	46%
	Level 4-6			330	28%

Group	Sub-group	Sample		Responses	
		#	%	n=	%
	Level 7-10			312	26%
Relationship	Relationship	1372	47%	682	57%
	Single	1577	53%	506	43%
Length of Service	1-2 years	1262	43%	435	37%
	4-5 years	692	23%	277	23%
	7-8 years	686	23%	333	28%
	10-11years	309	10%	143	12%
Generation	Veteran	7	0%	3	0%
	Baby Boomer	335	11%	224	19%
	Gen X	482	16%	286	24%
	Millennial	2125	72%	675	57%
Age (on 1 Sep 15)	15-24	1171	40%	287	24%
	25-34	965	33%	390	33%
	35-44	292	10%	168	14%
	45-54	300	10%	203	17%
	55-64	182	6%	119	10%
	65+	39	1%	21	2%
Service	Civilian	672	23%	434	37%
	Air Force	573	19%	288	24%
	Army	1149	39%	279	23%
	Navy	555	19%	187	16%

Table 1: Groups and Sub-groups

- With the exception of education, all group information for individuals was acquired from the HR Management Information System.

MOBILE TECHNOLOGY AND INTERNET USE – CATEGORIES

The following is based on the categories / catalogues used by 'Google Play'(4) and 'Apple iTunes App Store'(5) and the 'Model Questionnaire for Measuring ICT Access and Use by Households and Individuals'(10)(*Table 2*).

Category	Description
Books and Reading	Reading newspapers or magazines, electronic books (online or downloaded)
Communication	Telephone calls (not VoIP (Skype, iTalk, etc.)).
	Text Messaging
	Telephoning over the Internet/VoIP (e.g. Skype, iTalk, etc.)
	Sending or receiving email
	Accessing chat sites, blogs, newsgroups or online discussions
	Blogging: maintaining or adding contents to a blog
	Managing personal/own homepage
Education	Doing a formal online course in any subject.
Entertainment	Individual games (online or downloaded)
	Multi-player games
	Music and Audio (online or downloaded) includes web radio
	Media and Video (online or downloaded) includes web TV
	Online gambling (including poker, casinos, sports betting and lotteries)
Finance	Internet banking and banking apps (e.g. electronic transactions with a bank for payment, transfers, etc. or for looking up account information).
Government and Civic	Interacting with general government organisations (e.g. downloading / requesting forms, completing/lodging forms online, making online payments and purchasing from government organisations, etc.)
	Posting opinions on civic or political issues via websites (e.g. blogs, social networks, etc. that may be created by any individual or organisation).
	Taking part in online consultations or voting to define civic or political issues (Urban planning, signing a petition, etc.).
Health and Fitness	Fitness Apps (e.g. Running and fitness programs)
	Medical Apps (e.g. Medscape, Pregnancy+, ICE)
	Seeking health information (e.g. on injury, disease, nutrition, etc.)
	Making an appointment with a health practitioner via a website
Lifestyle	Lifestyle apps (e.g. grocery lists, baby alarms, recipes and menus, real estate).
	Purchasing or ordering goods or services (e.g. shopping, paying electricity bill, ordering takeaways).
	Selling goods or services (e.g. TradeMe, eBay)

Category	Description
	Looking for a job or sending/submitting a job application (e.g. searching specific web sites for a job; sending/submitting an application online.)
Navigation	Navigation (e.g. Maps, tides, compass for car, boat, bike or tramping)
	Weather
Productivity	Photograph editing
	Movie editing
	Editing text documents, spreadsheets or presentations (either online (in the 'cloud') or offline)
	Calendar
Reference (looking for information)	Getting information about goods or services
	Getting information from general government organizations
	Online information seeking for GENERAL purposes (e.g. checking facts, dictionary).
	Online information seeking for FORMAL LEARNING (but not Defence Force) purposes (e.g. consulting wikis (Wikipedia, etc.), Google searches, online encyclopaedias or other websites).
Social Networks	Participating in social networks (e.g. creating a user profile, posting messages or other contributions to Facebook, Twitter, etc.)
	Participating in professional networks (e.g. LinkedIn)
	Uploading self/user-created content to a website to be shared (e.g. text, images, photos, videos, music, software, etc.).
Sport	Sports apps (Golf, fishing, hunting)
Tools	Taking photographs
	Scanner (e.g. for QR codes, scan documents, business card reader)
	Recording movies
	Torch
	Alarm clock, FM radio, etc.
Travel	Using services and apps related to travel or travel-related accommodation (e.g. travel apps, Air NZ app, Trip Adviser, taxi and bus apps)
Utilities	Downloading software or apps (includes patches and upgrades).
	Using storage space on the Internet to save documents, pictures, music, video or other files (e.g. Google Drive, Dropbox, Windows Skydrive, iCloud, Amazon Cloud Drive).
Other	Other

Table 2: Mobile Technology and Internet Use – Categories

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12.	KEYWORDS	
	EJC THESAURUS TERMS	NON-THESAURUS TERMS
Training, learning, technology, simulators, civilians		Learning management system

13.   ABSTRACT

This report is the result of a survey of NZDF personnel, both uniformed and civilian, during September and October 2015. It forms part of a five-year study and follows on from surveys in 2013 and 2014.The aim of the study is to understand how NZDF personnel use technology for training, learning and recreation both at work and at home. The Survey was sent out by email to 2949 recipients and 1188 (40%) responded. The results provide a snapshot of the use of technology in the NZDF and indicate that technology could be used more effectively to deliver competent people to front line units and to provide more effective support to them once they are there.

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Devonport Naval Base.   T +64 (0)9 445 5902

Private Bag 32901.   F +64 (0)9 445 5890

Devonport, Auckland   www.dta.mil.nz

New Zealand 0744