

The  
University  
Of  
Sheffield.

CiCS.  
Student Mobile Device Survey  
2011

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## **1. Introduction**

With little information and supporting evidence on student ownership and usage of mobile devices at the University of Sheffield, making decisions on our services and support for mobile devices has been based, to a large extent, on assumptions. This survey was commissioned in order to determine factual information on mobile devices to enable future decisions to be more evidence based.

The results act not only as a benchmark for us to track future trends within mobile ownership and usage but they also highlight a number of areas where we can implement changes to improve the services and support we currently offer.

Communication is becoming increasingly mobile. Mobile device sales are increasing across the world. 90% of the world has mobile access; 1.2 billion mobile phones are sold worldwide and 35% of people in the UK have a Smartphone<sup>1</sup>. Smartphone sales are forecast to rise by a further 20% by 2015<sup>2</sup>. Android sales worldwide have risen 886% in the last year<sup>3</sup>.

As well as mobile phones, other devices such as laptops and e-readers are also increasing in usage. E-Readers are forecast to have sold 50 million units worldwide by the end of 2014<sup>4</sup>. The mobile apps market is forecast to be worth \$425 billion worldwide by 2015<sup>5</sup>. Younger people are buying higher priced laptops with netbooks being a growth area<sup>6</sup>.

CiCS aims to be ‘an innovative and influential department, respected by the University and recognised as a leader in the sector’ so it is natural that we gauge the usage of mobile equipment within the student population of the University of Sheffield.

## **2. Methodology**

A survey, created in surveymonkey, was emailed out to all University of Sheffield students on the 24<sup>th</sup> February 2011. The survey closed on the 14<sup>th</sup> March 2011. A copy of the questions can be found in Appendix 1. Respondents were guided through the survey – for example, if they said that they did not have a laptop they skipped the laptop questions. The aim was to make the survey as quick to fill in as possible. A prize of £20 printing credit was offered as an incentive and awarded to one student.

## **3. Results**

As the survey generated a great deal of data the results are given in two formats. Firstly a summary of results highlighting those of greater significance, followed by conclusions and recommendations. The full results are shown in a bar chart and data form in Appendix 2.

We have analysed data across various difference markers: gender, faculty, age, student origin and level of study (Undergraduate, Postgraduate etc). To compare data, percentages have been used as the actual numbers in each group differed widely.

As a disproportionately small number of TILL students completed the survey their results have been removed from the detailed analysis to ensure the data isn't skewed. All age categories over 35 have also been consolidated to ensure the sample size is statistically significant.

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<sup>1</sup> Source: 2011 UCISA conference talk from Paul Golding

<sup>2</sup> Worldwide Smartphone sales Forecast to 2015 – Coda research consultancy Ltd

<sup>3</sup> The Smartphone market 2010-2015 – Visiongain

<sup>4</sup> E-reader Market + future forecast worldwide 2010-2014 – Renub Research

<sup>5</sup> The Mobile Applications Market 2010-2015 – Visiongain

<sup>6</sup> PCs and Laptops – UK – Mintel International Group Ltd

## **4. Summary Results**

The results below highlight the most substantial results. They are numbered and these correspond with the numbering of the full results, which are shown in Appendix 2.

### **4.1. Demographics**

Overall we received 2180 responses, which equates to 9% of the University student population. 46% were male and 54% female. The overall University population comprises 89% of students between 18-24, however only 81% completed the questionnaire.

The table below shows student completion of the survey against student type and faculty. Expected figures are weighted and show what the figure would be if all responses correlated to the current student population.

	<b>Undergraduate</b>		<b>Postgraduate Taught</b>		<b>Postgraduate Research</b>	
	Actual	Expected	Actual	Expected	Actual	Expected
<b>Arts and Humanities</b>	349	258.3	60	35.7	38	18.7
<b>Engineering</b>	324	222.7	67	57.0	74	48.4
<b>Medicine, Dentistry and Health</b>	210	215.6	32	67.9	25	22.9
<b>Science</b>	310	272.6	16	16.0	45	45.0
<b>Social Sciences</b>	337	538.3	132	190.6	38	46.7
<b>Visitor</b>	35	41.9	10	4.7	1	0.0
<b>Total</b>	1565	1549.4	317	371.9	221	181.7

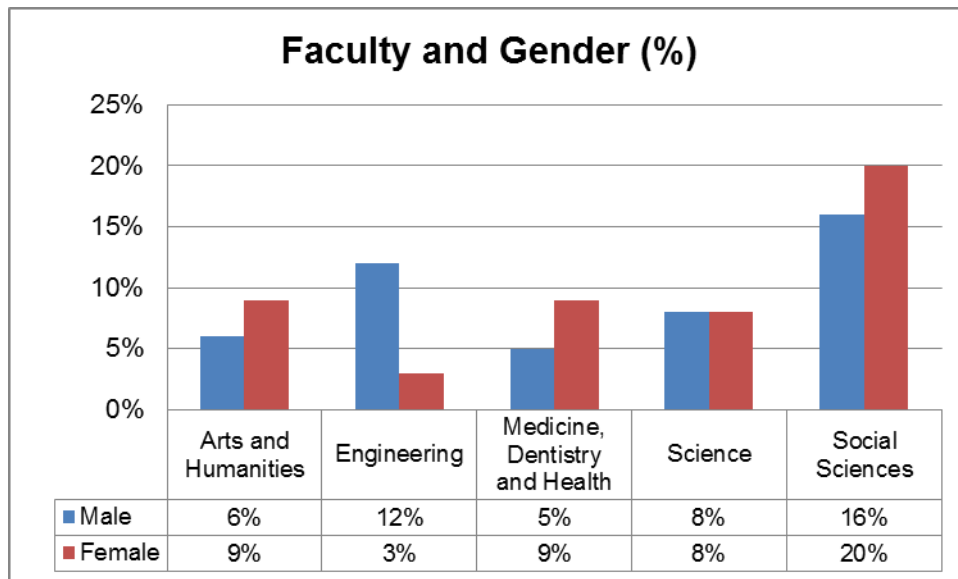
There is an apparent under sampling from Social Science Faculty undergraduates and some over sampling of Social Science Faculty taught postgraduates.

The table below shows student completion of the survey against gender and student. Expected figures are weighted and show what the figure would be if all responses correlated to the current student population.

	<b>Male</b>		<b>Female</b>		<b>Total</b>	
	Actual	Expected	Actual	Expected	Actual	Expected
<b>UG</b>	694	753.1	866	790.4	1560	1543.5
<b>PG</b>	265	258.7	269	291.8	534	550.5
<b>Total</b>	959	1011.8	1135	1082.2	2094	2094.0

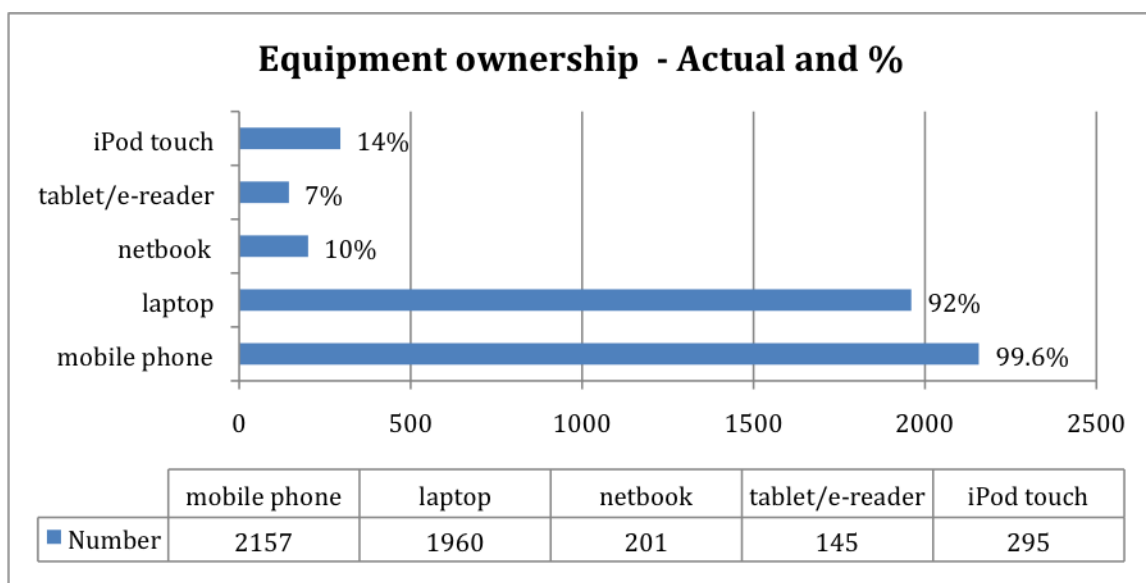
There is a slight under sampling of males and over sampling of females.

The following graph shows the distribution of student responses over Faculty and Gender.



## **4.2. Equipment ownership**

The bar chart below shows overall equipment ownership.

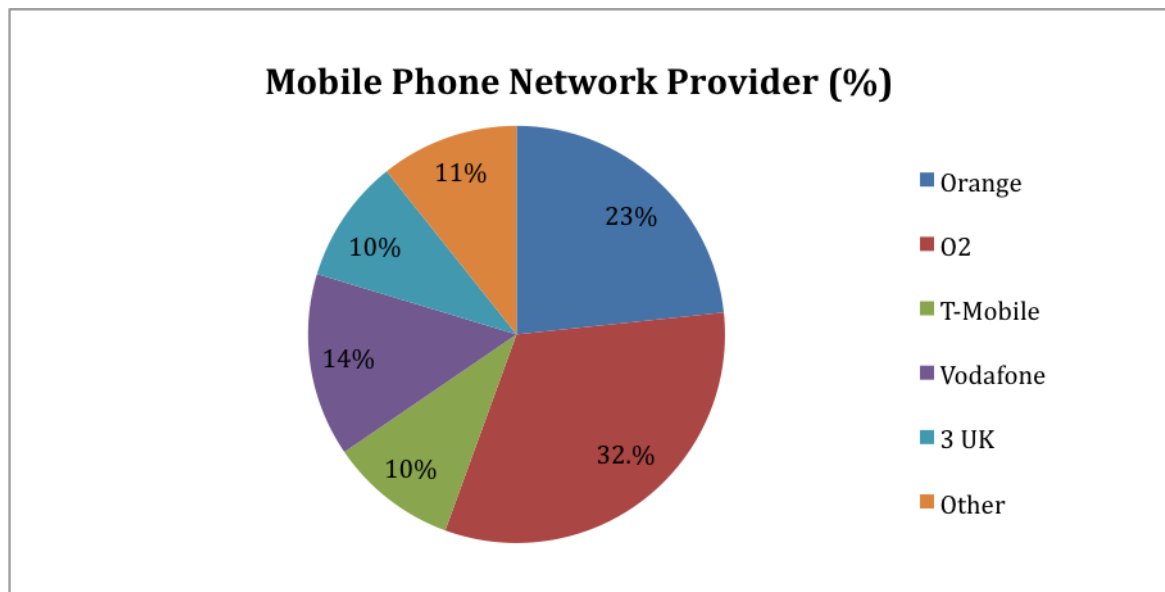


Only nine students do not own a mobile phone. Five students own all equipment - a Smartphone, laptop, netbook, tablet/e-reader and an iPod Touch. 26 owned all equipment except a netbook. Five own all equipment except a laptop.

### **4.2.a. Mobile Phones**

We asked students about their phone: if they have a Smartphone or are thinking of upgrading. We also asked about their network provider and package.

## Network Provider



Orange have merged with T-Mobile and Virgin creating Everything Everywhere, giving them a 33% share of the student market at the University. O2 have 32% of our student market, with Vodafone next on 14%. This differs from the UK average where Everything Everywhere had 38% share of the market, O2 had 30% and Vodafone 25% at the end of 2010.<sup>7</sup>

### Students without a Smartphone

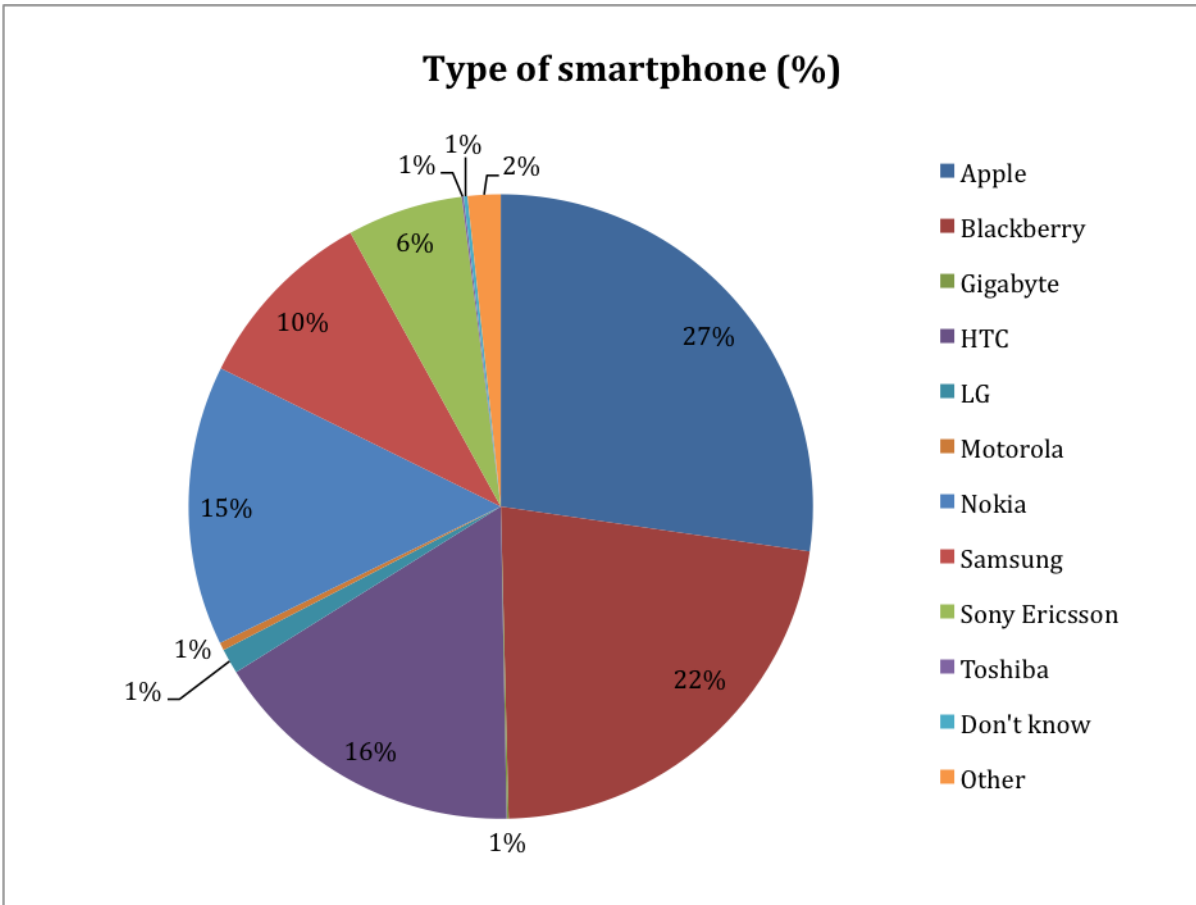
We asked those students without a Smartphone if they are thinking of upgrading. 25% are planning to upgrade their phone to a Smartphone but 50% are not. 25% did not know.

### Smartphone Ownership

56% of University of Sheffield students have a Smartphone, much higher than the UK average of 35%. We asked all respondents with Smartphones what make of phone they have and the results are overleaf.

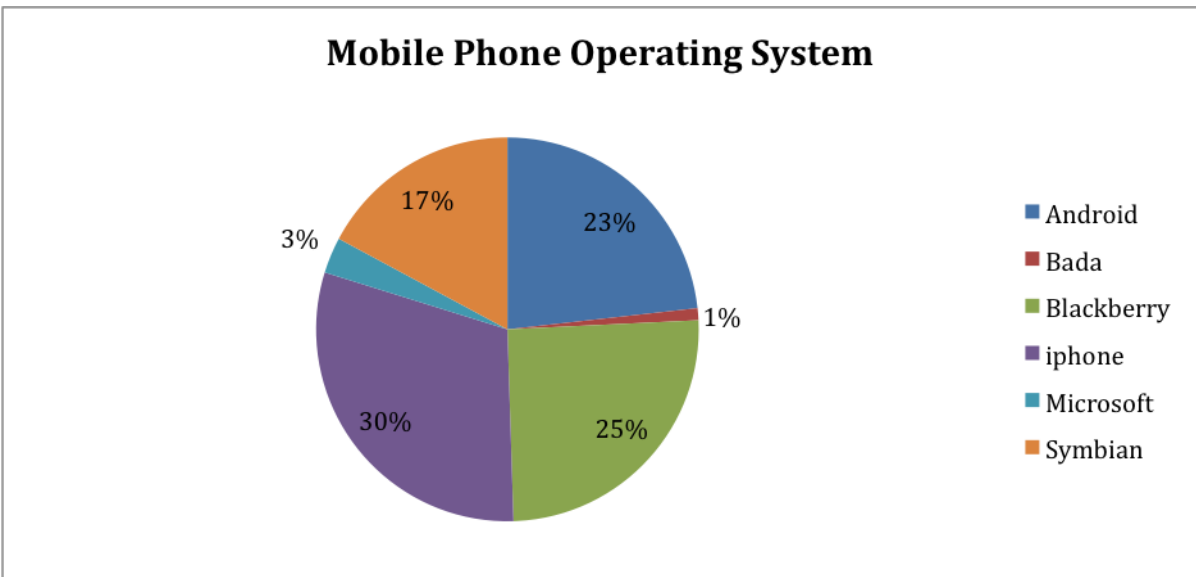
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<sup>7</sup> Telecommunications Market Data. End 2010. Ofcom



At the University of Sheffield the four most popular makes of phones are Apple, Blackberry, HTC and Nokia.

The students were asked about the actual model of phone and from this data we extrapolated the operating system. The distribution is shown below.



A Nielson poll of 2011 found that iPhones UK market share was 28.6%, Blackberry 26.1% and Android 25.8%. The iPhone has a larger share of the market at the University at 30%, Blackberry a little less at 25% and Android at 23%.

49% of students with Smartphones have unlimited internet access as part of their package, 31% don't and 13% pay for extra access. Of those with limited access 21% find this limited the services they can access and 23% find it somewhat limits their access to services.

#### **4.2.b. Laptops**

We asked students if they own a laptop and if so what operating system it has. 92% of students responding to the survey own a laptop. 85% have windows, 13% macs, 1% Linux and 1% 'other.' In the verbatims the majority of 'others' are dual or triple boot machines, mostly Windows/Linux but some Mac/Windows/Linux.

#### **4.2.c. Netbooks**

We asked students if they own a netbook and, if so, what operating system it has. 10% of students own a netbook of which 79% are Windows netbooks. There are far more Linux netbooks (13%) than there are Linux laptops (1%). 'Others' are dual boot machines.

#### **4.2.d. E-readers and Tablets**

We asked students if they own a tablet or e-reader and, if so, what type it is. 7% of students own either a tablet or an e-reader. 79% of tablet owners have an iPad, 10% 'Other', 5% Samsung or Dell. iPads are the most popular choice for University of Sheffield students.

We also asked students what e-reader they owned. 75% own a Kindle, 13% own a Sony and the under 10% owned another make of e-reader. Kindle's are the most popular choice for University of Sheffield students.

More students owned e-readers than tablets. 3% (74 in total) of all respondents owned a Kindle whereas only 2% (46 people) owned an iPad.

#### **4.2.e. iPod Touch**

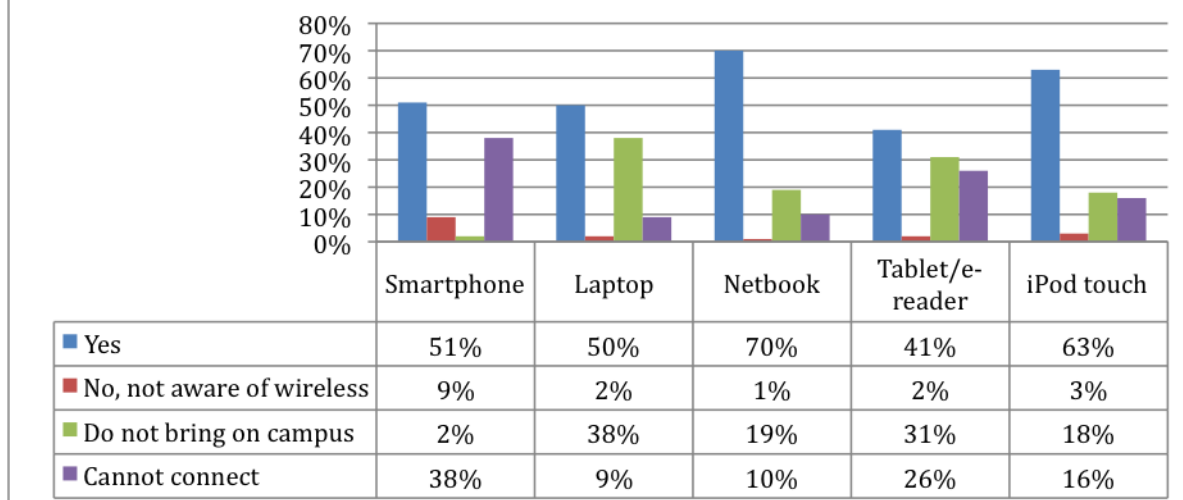
We asked students if they owned an iPod Touch. 14% of respondents owned an iPod Touch.

## **5. Accessing our services**

### **5.1 - Wireless**

We asked students, who owned wireless enabled equipment, if they connected to Eduroam, the university wireless service. It appears that there is awareness that the wireless service exists but some students are not bringing equipment on campus or are struggling to connect. Some equipment may be more difficult to connect to Eduroam or it may not be possible to connect some devices at all.

## Do you access the University Wireless Service (Eduroam) %



Netbooks and iPod Touches appear to be the easiest to connect to Eduroam. Only 51% connect their Smartphone to Eduroam, which is low considering the number of students who bring their phone on campus.

Awareness of the wireless service seems high with very few being unaware, although this rises for Smartphone owners.

Apart from Smartphones there are a substantial number of student owned devices not being brought on campus, particularly laptops and tablets. 38% of students do not bring their laptop onto campus. 31% of tablets/e-readers are not brought on site. Reasons given for not bringing equipment on campus in the verbatim responses included: equipment being too bulky, too heavy and issues connecting to wireless.

There are a large percentage of Smartphone and tablet/e-reader owners unable to connect. It is worth noting here that, at present, Kindles cannot connect to Eduroam so this may account for the large number of those not connecting.

Verbatim comments about connecting equipment to Eduroam included:

*'Not that I don't know how to connect, I do with my iPod touch, but my phone has its own unlimited access so I have no need for the wireless' (Smartphone)*

*'I tried once but was unsuccessful in connecting and haven't tried since' (Smartphone)*

*'Rarely bring in laptop as I have an iPod touch' (Laptop)*

*'Have tried, but can't get it to work as don't understand what passwords I need.' (Laptop)*

*'Laptop is too big to take to lectures' (Laptop)*

*'Have it in campus. Just not registered for uni network' (Netbook)*

*'would use laptop instead' (Netbook)*

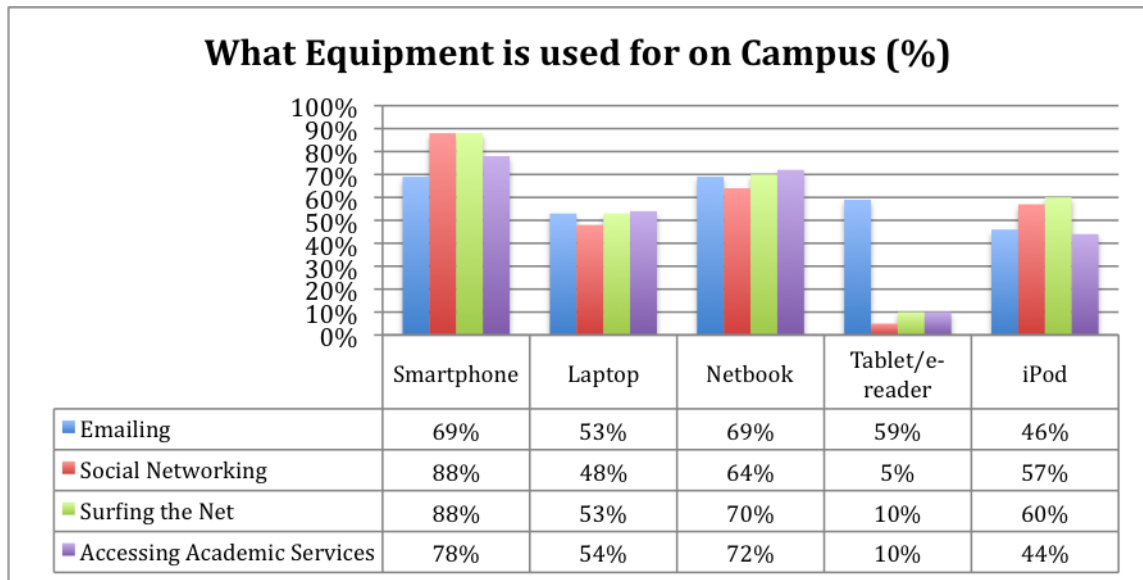
*'I dont need to connect my kindle to the internet on campus' (e-reader)*

*'Kindle can't be connected to enterprise networks, so unfortunately doesn't work on campus' (e-reader)*

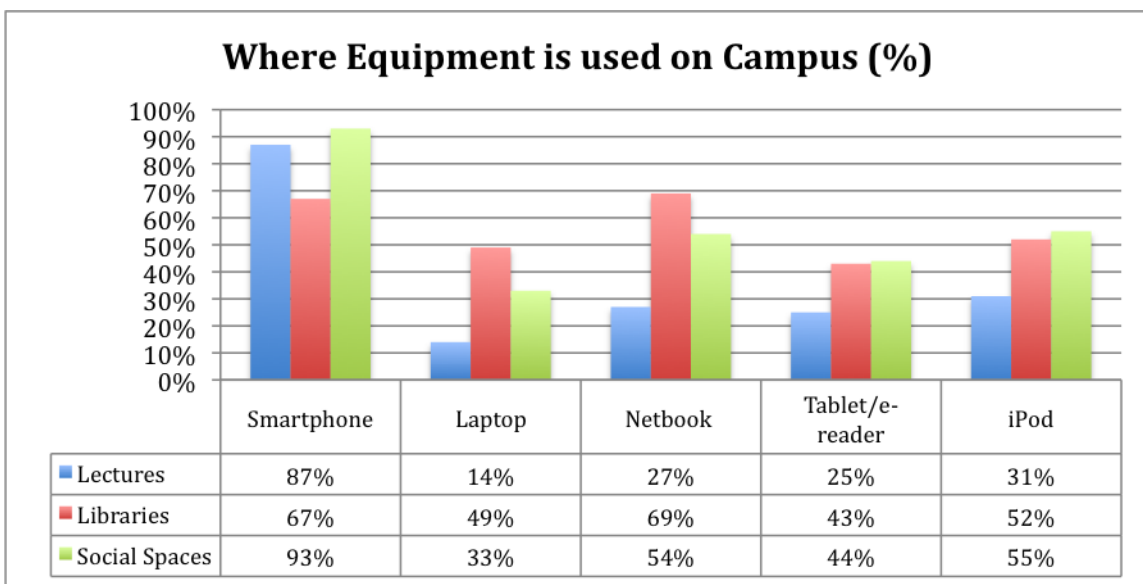
*'I just don't need to connect it, not that I don't know how' (iPod Touch)*

## 6. Usage on Campus

We gave students options to choose from to describe what they did with the equipment they brought on campus. The results are shown below. All equipment is used for accessing the internet and accessing academic services.



Smartphones are the most used on campus. Email is highly utilised in tablets/e-readers.



In lectures students are much more likely to be using their smartphone (87%), than any other piece of equipment. Second most used in lectures is iPods. Laptops and netbooks are used more in Libraries.

Verbatims comments on equipment usage included:

*'I'm still paying attention in lectures too. Honest.'* (Laptop)

*'If I have a report to write or presentation to do I will bring my laptop just so I have all my files and programmes with me and don't have to hunt for a computer.'* (Laptop)

*'watch video and read online newspapers from my country'* (Netbook)

*'Writing essays, use of Microsoft Office, blogging.'* (Netbook)







*'depends on how long i have been using the equipment. The longer i using them ,The better confident i can get.'*

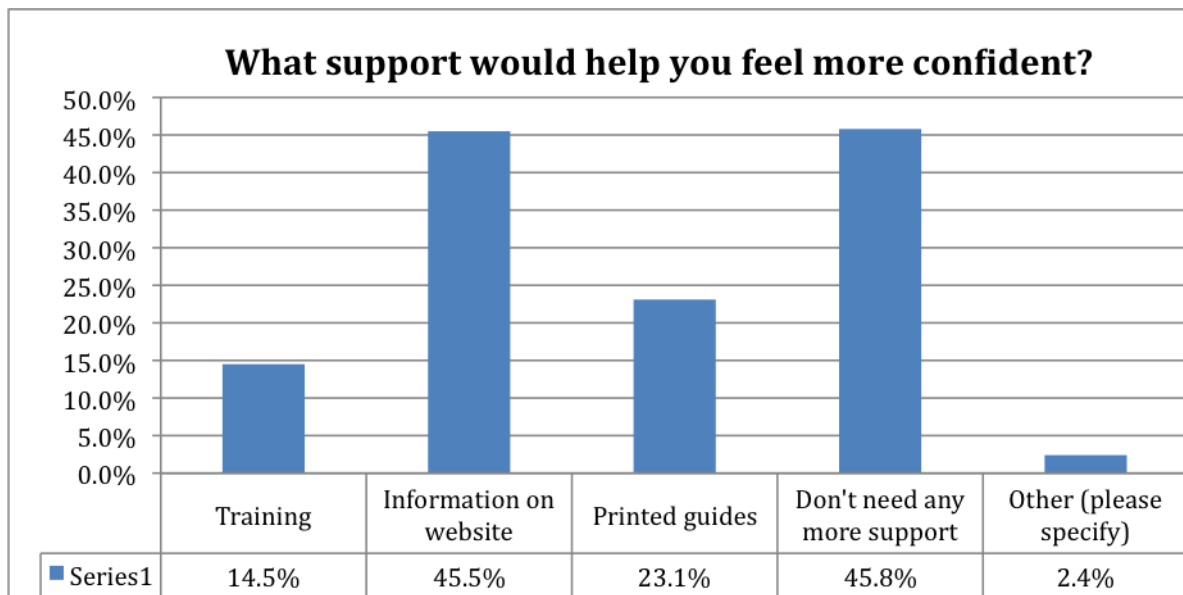
*'I feel fairly confident using everyday programs and such, but when I need something as a one off or need to solve a problem I feel quite lost.'*

*'I'm generally not very good with technology but I manage.'*

*'If explained to me, i can use my laptop efficiently; i am not good at spotting short-cuts, logging-on to a new network by myself (e.g the wireless on campus) or knowing what to try when something won't work.'*

## **9. Support Needs**

We asked students what support would help them feel more confident about using their equipment.



Many felt that they did not need any more support. Of those that did, information on the website was the most popular. 49 People filled in the 'other' option. Verbatims included:

*'If I have a problem with using my iphone or laptop I use google to find out how to do it.'*

*'Make it just "happen" so if I turn on my computer it's there, it's visible, and I can just use it.'*

*'Information written accessibly BEYOND the first few instructions - usually descend into IT jargon that I have no way of understanding e.g. setting up email wizard option on my phone'*

*'I like being able to come to CICS and ask for help, they are always friendly and willing to help.'*

The wordle overleaf illustrates the verbatim comments. Larger comments were the most frequently mentioned.



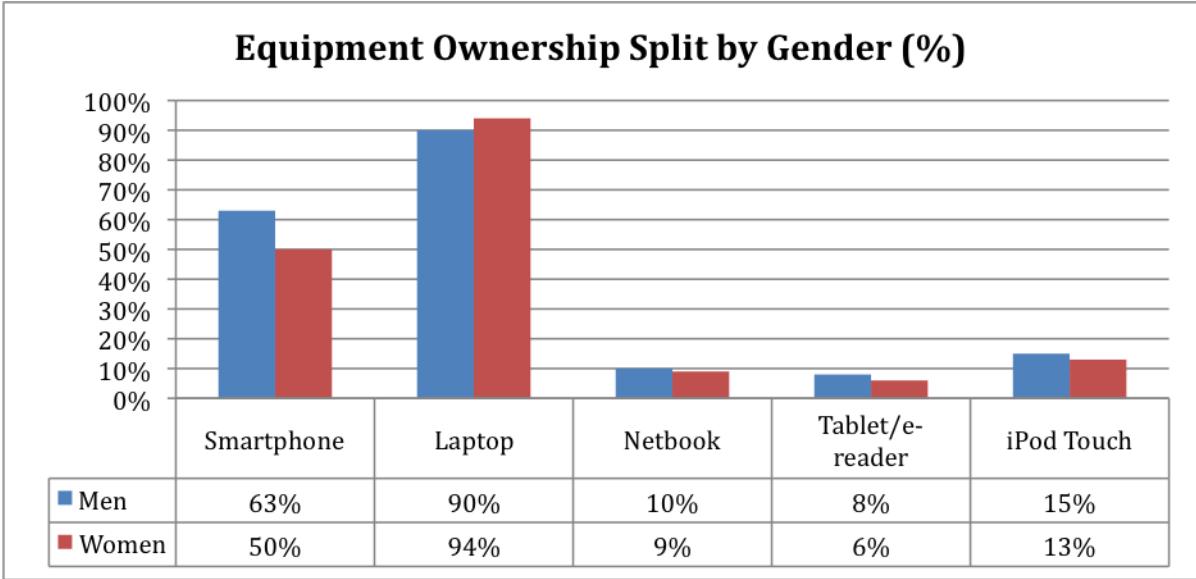
The majority of the verbatim comments were students who were confident using their mobile equipment and did not want any further assistance.

**10. Further Analysis**

**10.1 Gender**

1173 female students (54%) completed the survey and 997 male students (46%). The overall actual University gender split is 52% female students and 48% male.

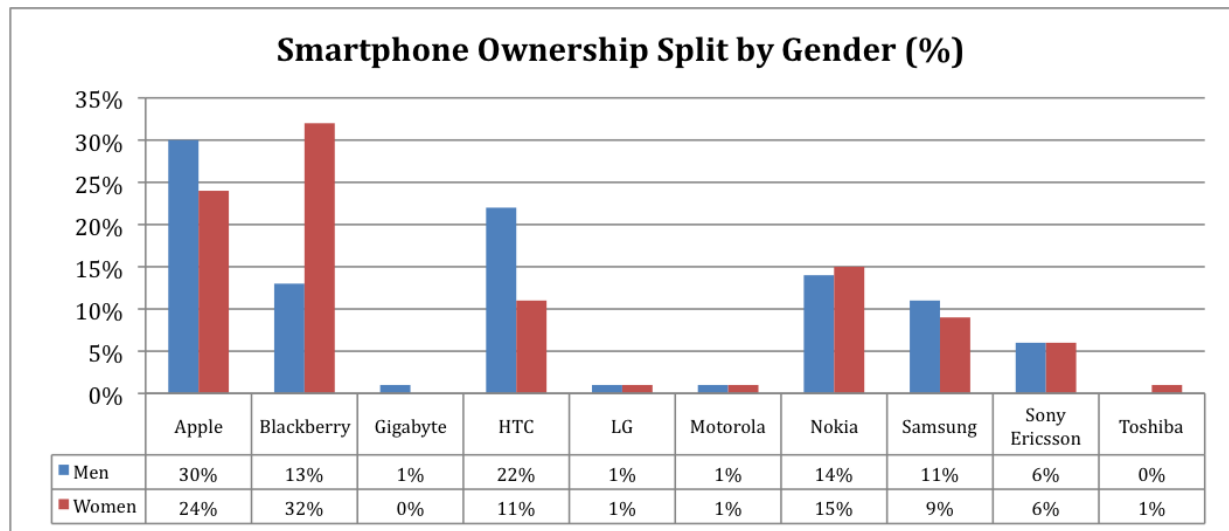
There are marked gender differences in most areas of this survey.



63% of male students own a Smartphone compared to 50% of female students. Both are higher than the UK average (35%). Except for laptops, on average male students own more electronic equipment than females

### 10.1a Mobile Phones

Only 5 male students do not own a mobile phone. 27% of those without a Smartphone are planning to upgrade in the next 12 months. Only 3 female students do not own a mobile phone. Of those who do not own a Smartphone 23% are planning to upgrade in the next 12 months and 52% have no plans to upgrade.



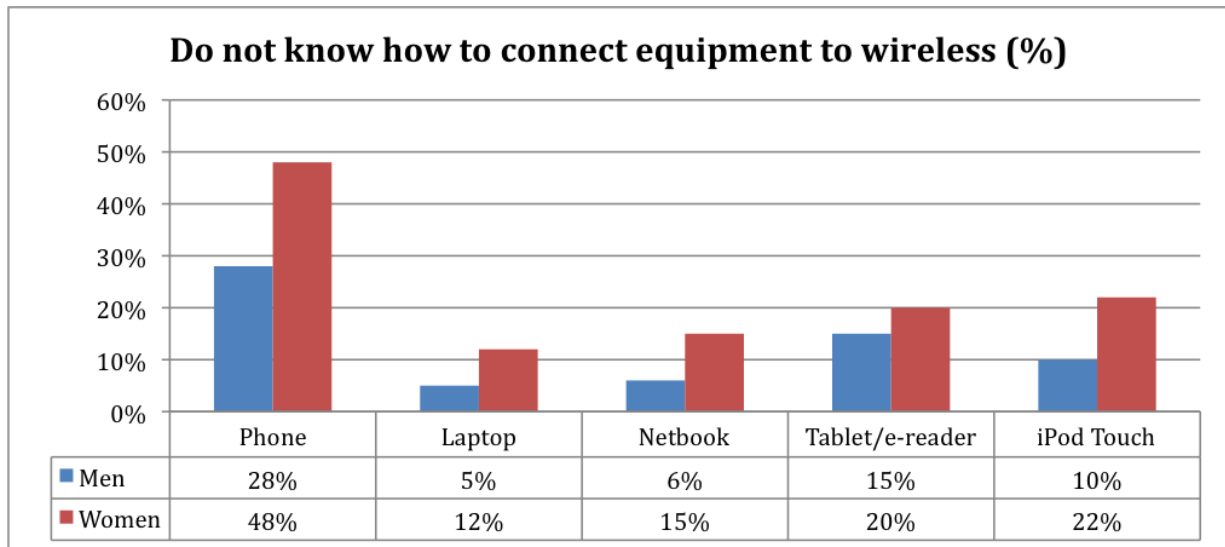
Female students favour Blackberrys much more than male students, whereas male students favour iPhones and HTC.

### 10.1b Laptops and Netbook Operating Systems

Slightly more male students than average have Macs (15% rather than 13%) laptops and Linux operating system (2% rather than 1%). They have slightly more 'other' operating systems (2%). 88% of female students have Windows laptops and 11% Macs. None have Linux and less (1%) 'other' operating systems.

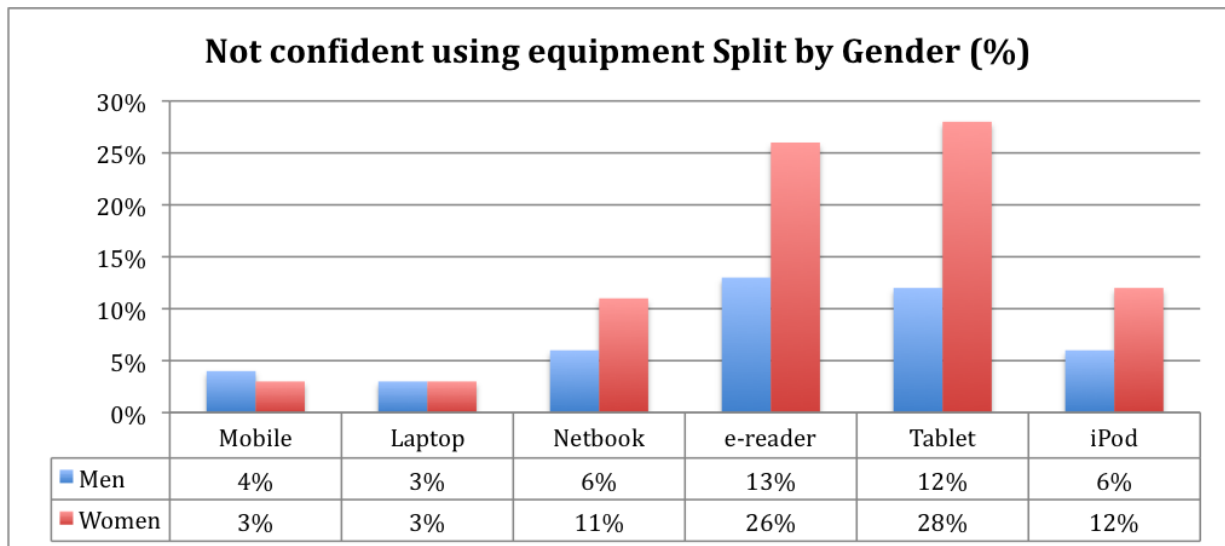
A larger proportion (21%) of male students have Linux netbooks than women (5%). More female students have Mac netbooks (9%) than male students (5%). Of female students who own a netbook, 85% have windows compared to 73% of male students.

### 10.1c Accessing wireless



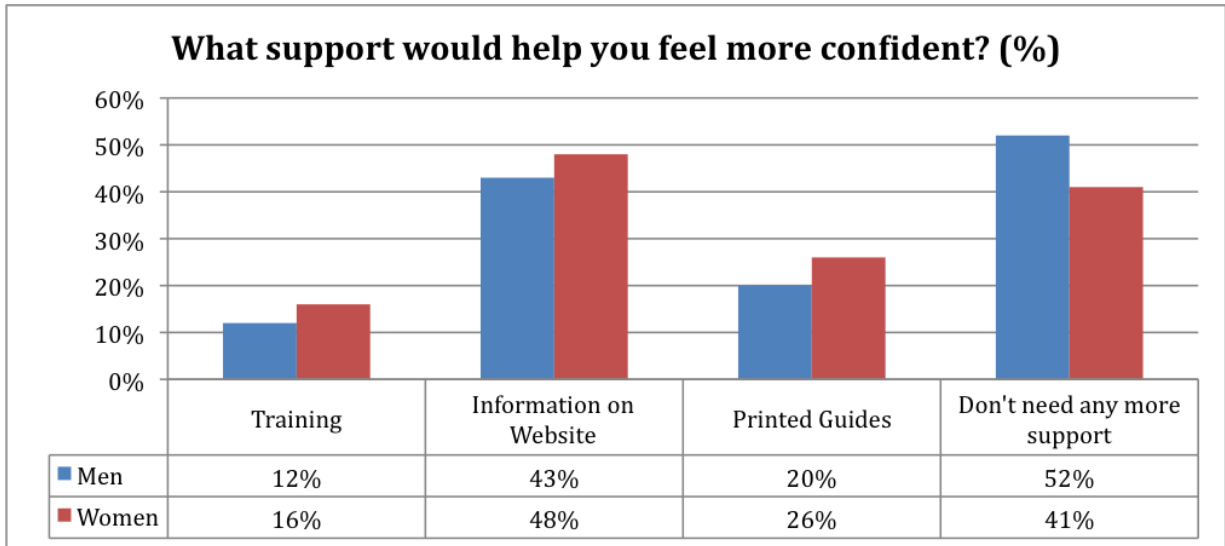
There are differences, across the board, in male students and female students connecting to wireless. Female students seem to find it more difficult or are less motivated to connect to the wireless network. It may also reflect differences in purchasing choices, such as Blackberry Smartphones, and the ease with which they connect to Eduroam. This suggests a need for education, training or simplifying our process for connecting to wireless. It needs investigating further to establish what should be done to improve this.

### 10.1d Support needs



Male students are far more confident using their equipment than female students, except using mobile phones, where female students are marginally (1%) more confident.

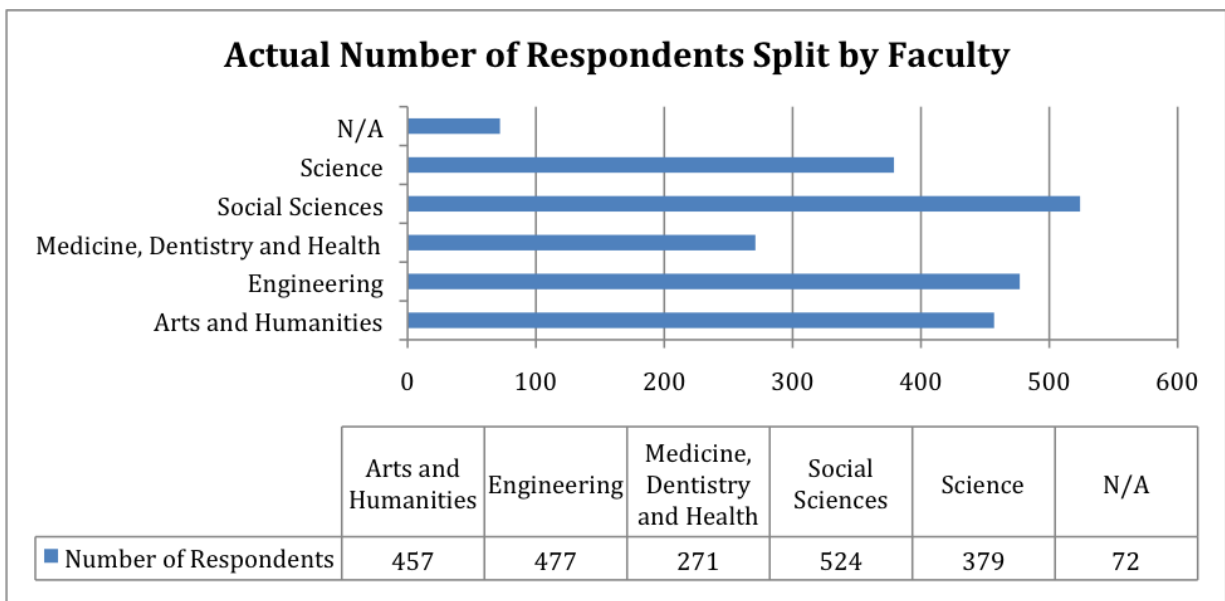
Because of this difference in confidence and issues connecting to wireless we looked at what support each gender would prefer to feel more confident using their equipment.



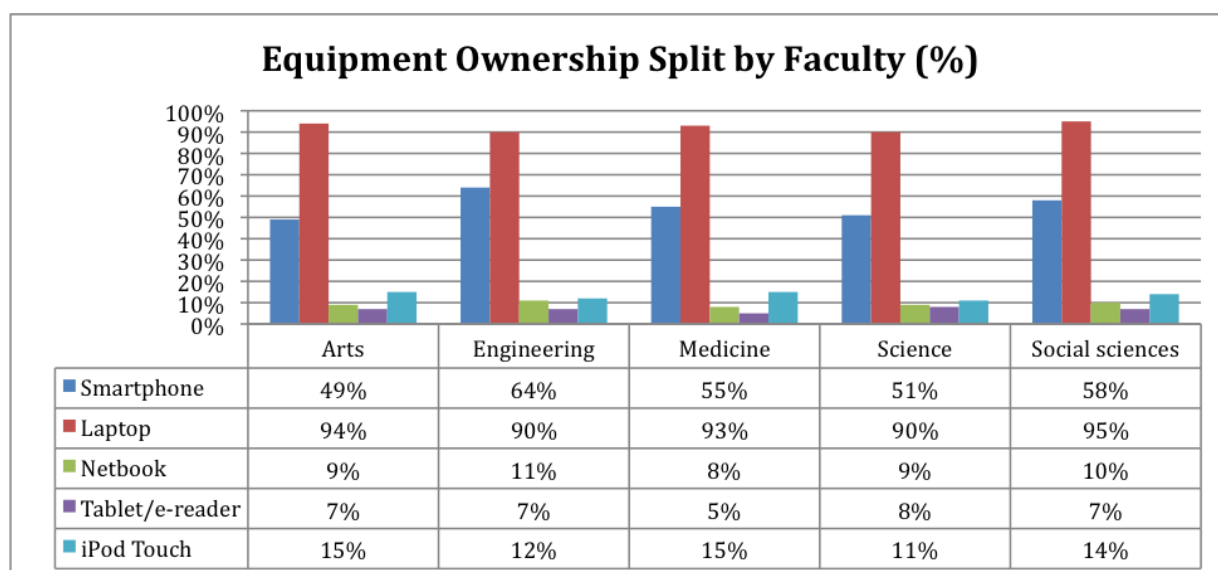
Male students are more likely to say that they do not need any more support, reflecting their confidence in usage. Female students are interested in all types of support.

## 10.2 Faculty Differences

Student response numbers broken down by Faculty are shown below. As stated above in the demographics section there was a much smaller response from Faculty of Social Sciences students proportionally than we might expect with 24% of the survey responses being from that Faculty although the Faculty makes up 37% of the University student population.



## 10.2a Equipment Owned

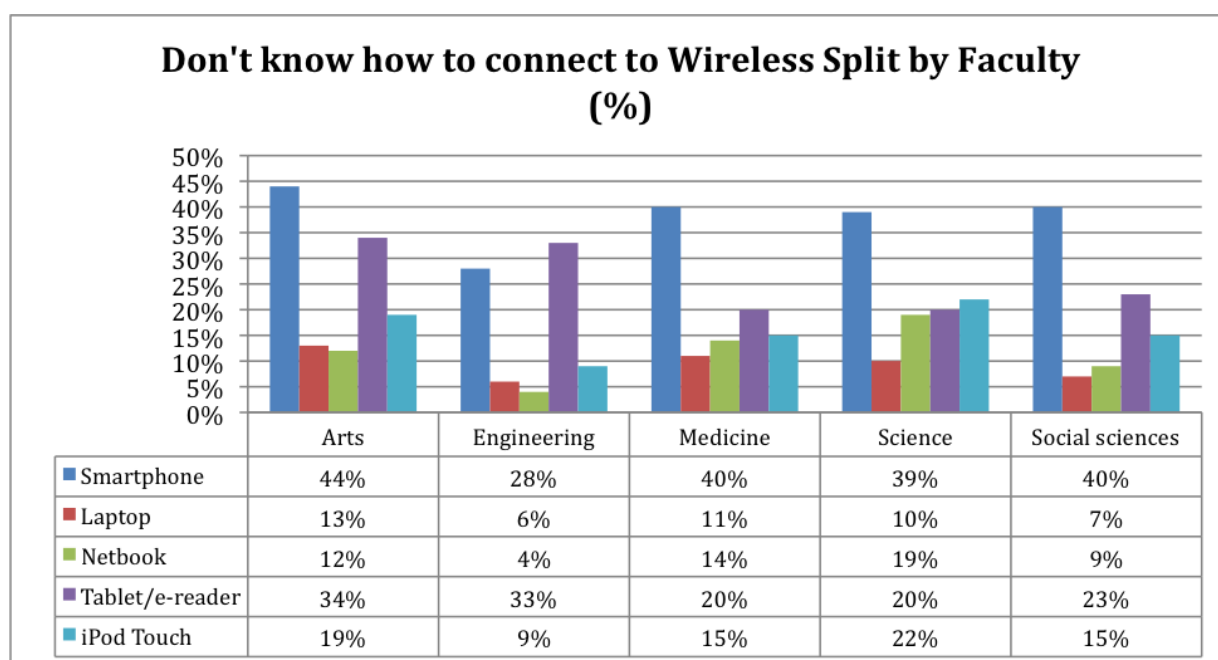


Student ownership of Smartphones is lower in the Faculty of Arts (49%) and highest in the Faculty of Engineering (64%). Laptop ownership is around 90% for students in all faculties. Netbook and tablet ownership is relatively similar. iPod touches are more popular with students in the Faculty of Arts, Faculty of Medicine and Faculty of Social Sciences.

## 10.2b Laptop and Netbook Operating Systems

In all the faculties, student ownership of laptops is between 84 and 87%, for Macs it is 10 to 14%. Students in the Faculty of Engineering are more likely to have Linux laptops at 2% rather than 1%. These students are also where all of the 'other' operating system netbooks are owned. Students from the Faculty of Engineering are far less likely to have a Windows netbook (67%) rather than 81% in the Faculty of Medicine and 95% in the Faculty of Arts.

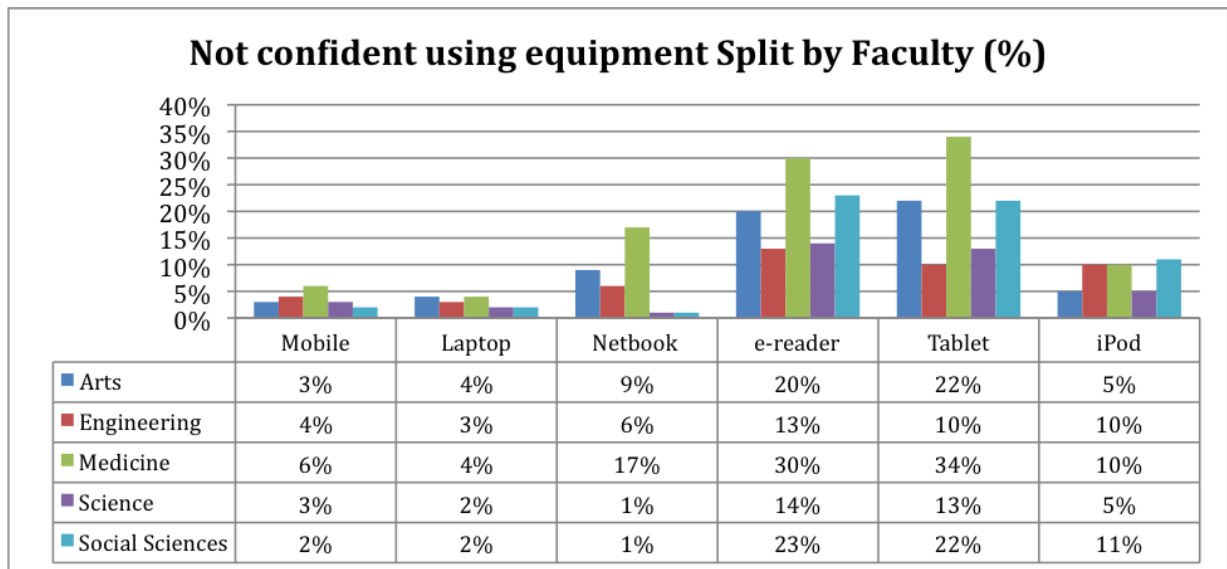
## 10.2c Accessing the University wireless service



Faculty of Arts students have the most problems connecting their Smartphones. Faculty of Engineering students find connecting all their equipment, except tablets/e-readers, most straightforward. Faculty of Sciences students have most problems connecting their netbooks. They do have a high number of Linux netbooks, as do Faculty of Engineering, so it may be harder to connect a Linux machine.

Lack of awareness of the University wireless service is highest in Faculty of Arts and Faculty of Medicine.

### 10.2d Support needs

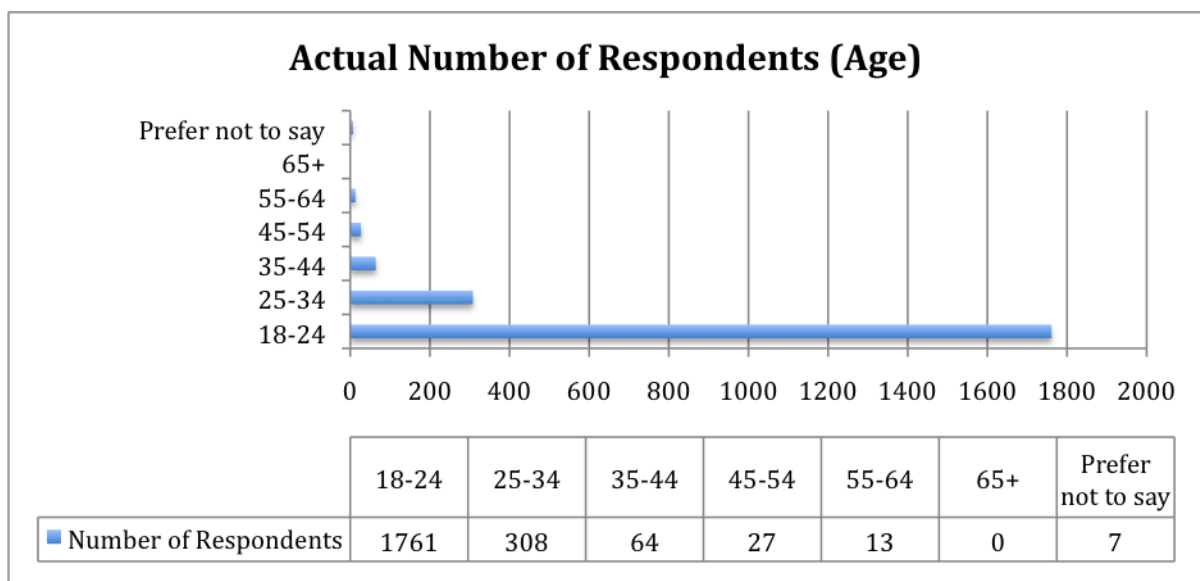


Faculty of Medicine and Faculty of Arts students are less confident on using most equipment. Faculty of Social Sciences students are less confident using e-readers, tablets and iPods. Overall confidence falls if students own fewer mobile devices.

Students from the Faculty of Engineering and Faculty of Sciences are more confident in using equipment.

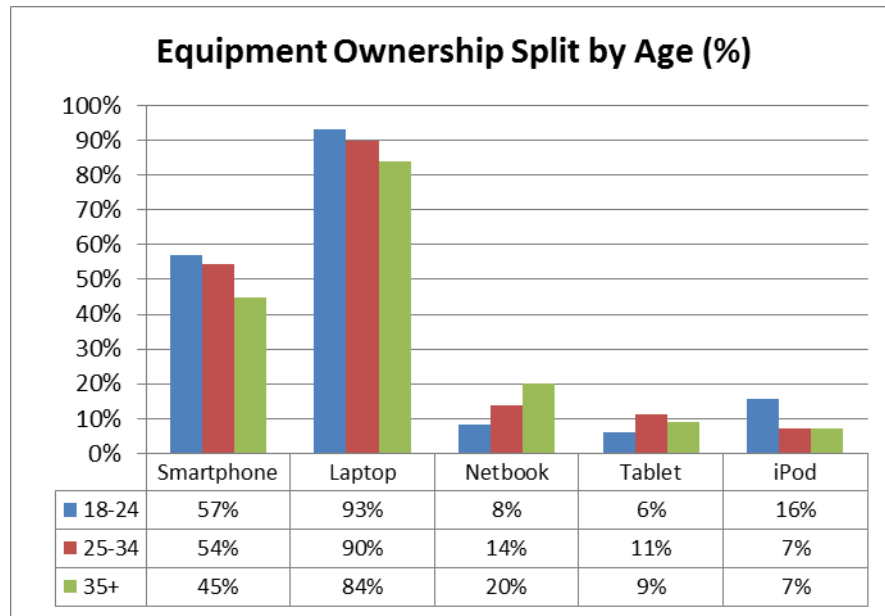
### 10.3 Age Differences

The figures for each age group are shown below.



The numbers for the older students are smaller. To increase the sample size we combined results for 35+ aged students. The University student population is made up of 1% aged over 40 years old so there was a larger percentage response than expected (2% completing the survey were 45 and older).

### 10.3a Equipment Ownership



Smartphone and laptop ownership declines with age whereas netbook ownership increases. iPods are more popular with students under 25. Tablets are more popular with the 25-34 age group.

### 10.3b Mobile phones

iPhones are favoured by 25-34 year olds with 35% owning them. Blackberrys are favoured by 18-24 year olds (25% own). HTC and Nokia ownership rises with age.

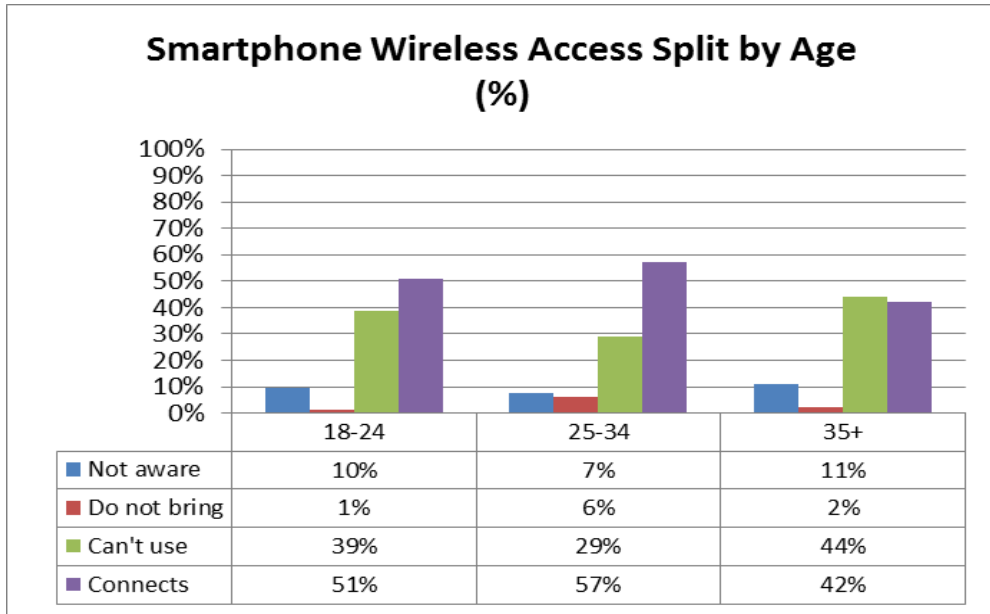
### 10.3c Laptop and Netbook Operating Systems

Windows is favoured in both laptops and netbooks, being used by over 80% of all student age groups except for 69% of 25-34 year olds with netbooks. Students under 35 are the two age groups to have either Linux or 'other' operating systems on their laptops.

For netbooks Linux usage is highest in over 35 year olds at 15%. 12% of the 25-34 age range have Linux netbooks and 2% 'other' type of operating systems. This may reflect the experimental nature of their level of study.

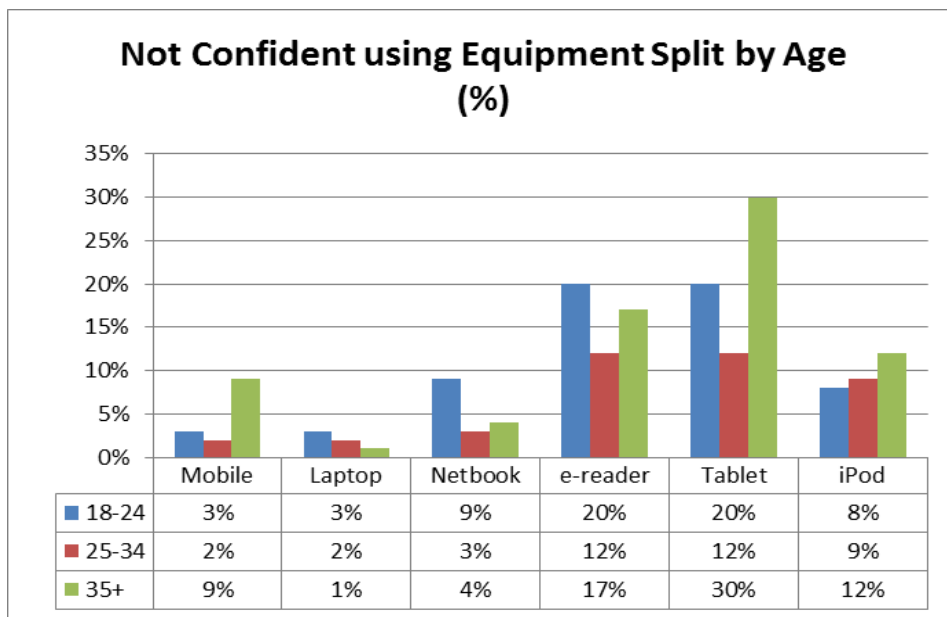
### 10.3d Accessing wireless

We looked specifically at the ease of connecting Smartphones.



The 35+ age group are the least aware of Eduroam at 11% however 10% of 18-24 year olds are also unaware of it. Problems connecting to the wireless network are highest for the 35+ age groups (44%) but is also high for 18-24 year olds (39%), the largest number of students. 25-34 year olds are most likely not to bring their Smartphone to campus.

### 10.3e Support needs

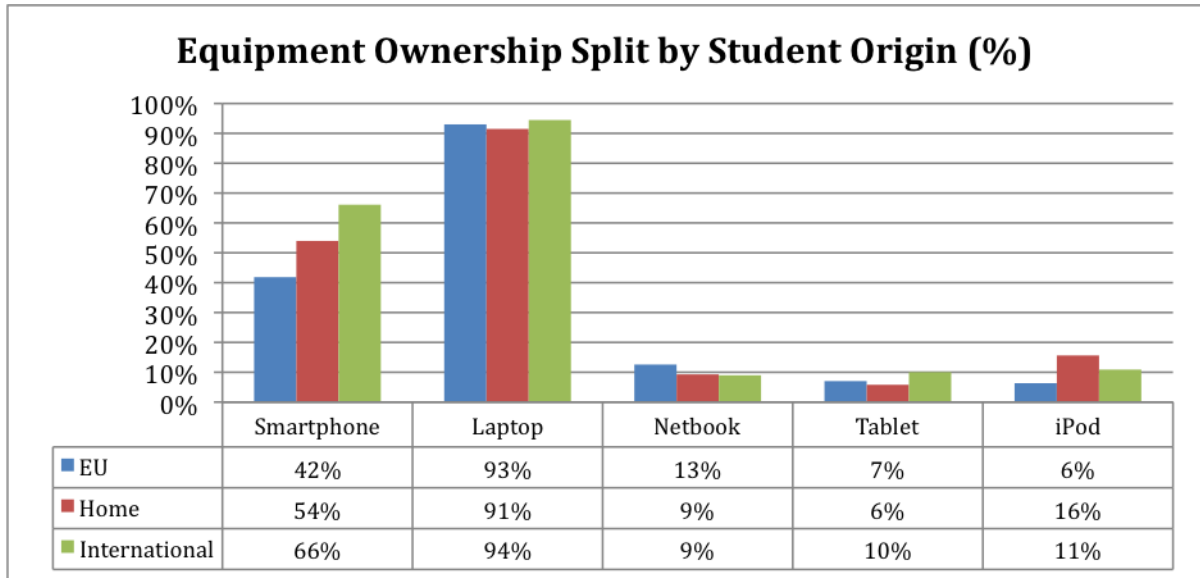


As noted earlier confidence generally decreases for students who own less mobile devices.

## 10.4 Home, EU, International Differences

1533 home students responded to the survey, 143 EU and 486 International students.

### 10.4a Equipment Ownership



Smartphone ownership is higher for international students at 66%. Laptop ownership is similar across the student types. Slightly more EU students own netbooks and more international students own tablets. Home students favour iPod touches.

#### 10.4b Mobile Phones

International students favour Apples (32%) and Nokia (27%) phones. EU students favour Apple (23%) and HTC (22%). Home students choose Apple (26%), HTC (17%) and Blackberrys (27%).

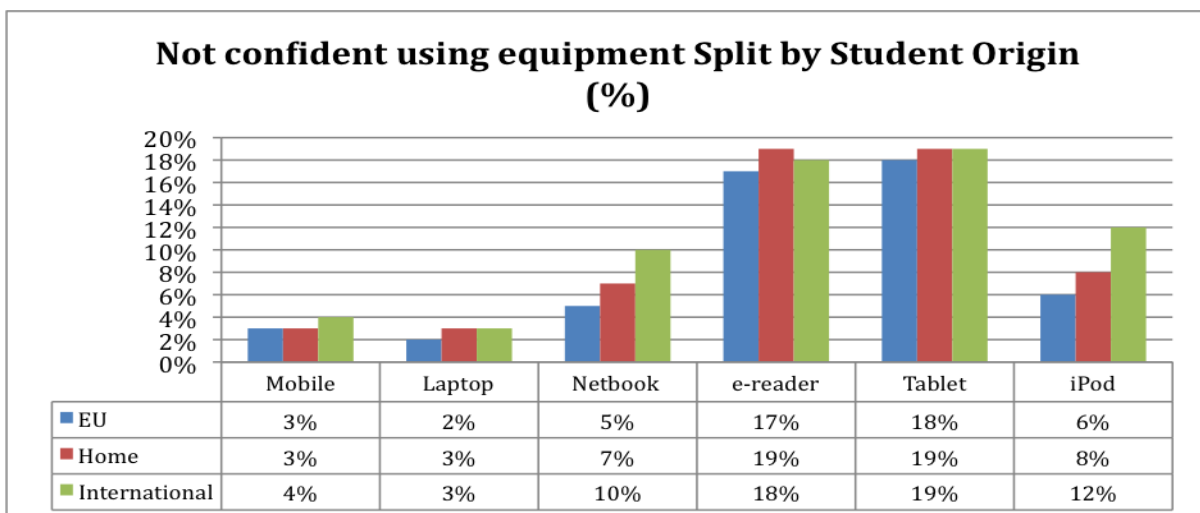
#### 10.4c Laptops and Netbook Operating Systems

The spread of operating systems is fairly similar across home, EU and international students. There are more international students with mac netbooks (19%). This is assumed to be the Macbook air. Linux is less chosen by International students for their netbooks at 2% (15% Home and 17% EU have Linux netbooks).

#### 10.4d Accessing wireless

Home students are slightly less aware of the Eduroam wireless network and find it slightly harder to use if they are aware of it. EU students are more likely not to bring their Smartphone on campus.

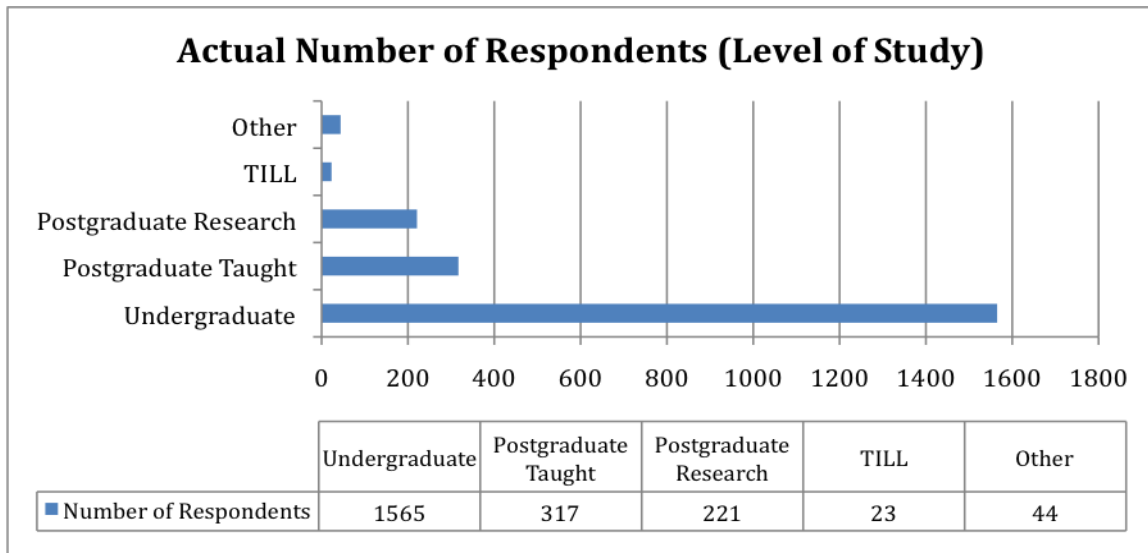
#### 10.4e Support needs



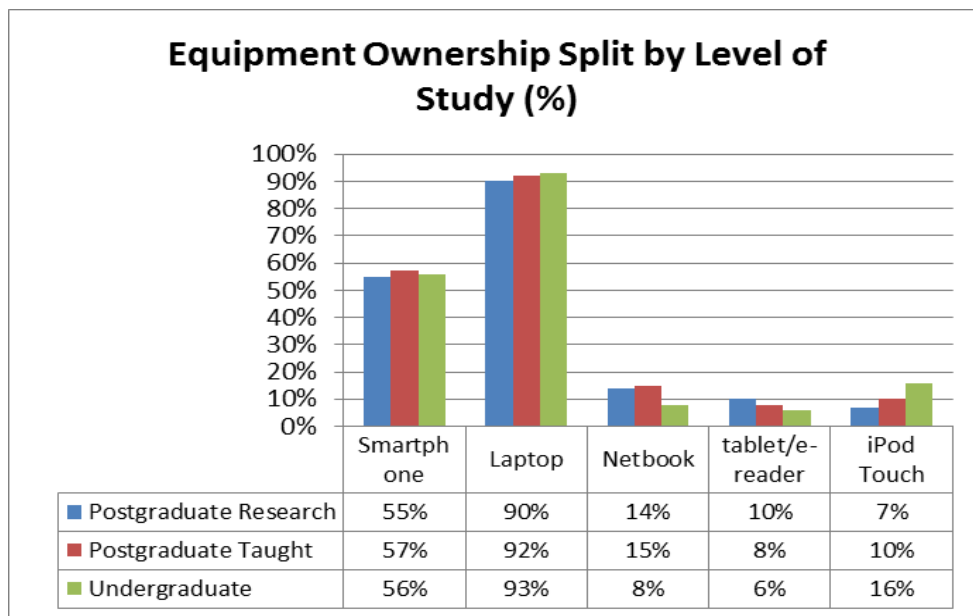
International students are less confident using their mobiles, netbooks and iPods. EU students are more confident overall than home or international students.

### 10.5 Level of Study

Below is the level of study of each respondent.



#### 10.5a Equipment Ownership



Equipment ownership is fairly evenly spread across students split by level of study. Undergraduates are less likely to own a netbook (8%) and more likely to own an iPod Touch (16%).

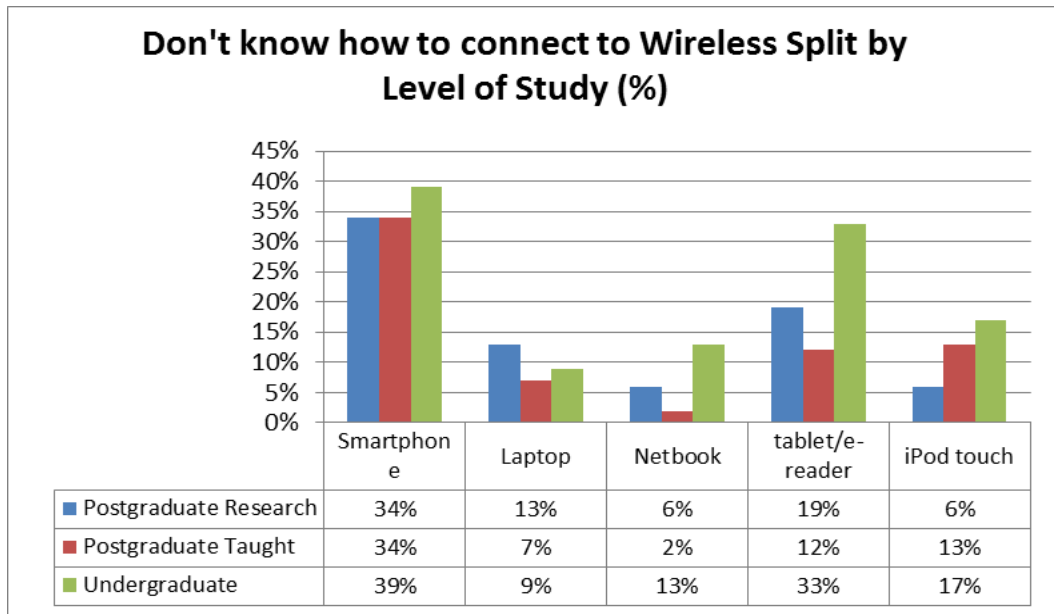
#### 10.5b Mobile Phones

Research postgraduates favour iPhones (37%) followed by Nokia (19%). Taught postgraduates also favour iPhones (28%) and Nokia (20%). Undergraduate students favour iPhones and Blackberrys equally at 26%.

### 10.5c Laptop and Netbook Operating Systems

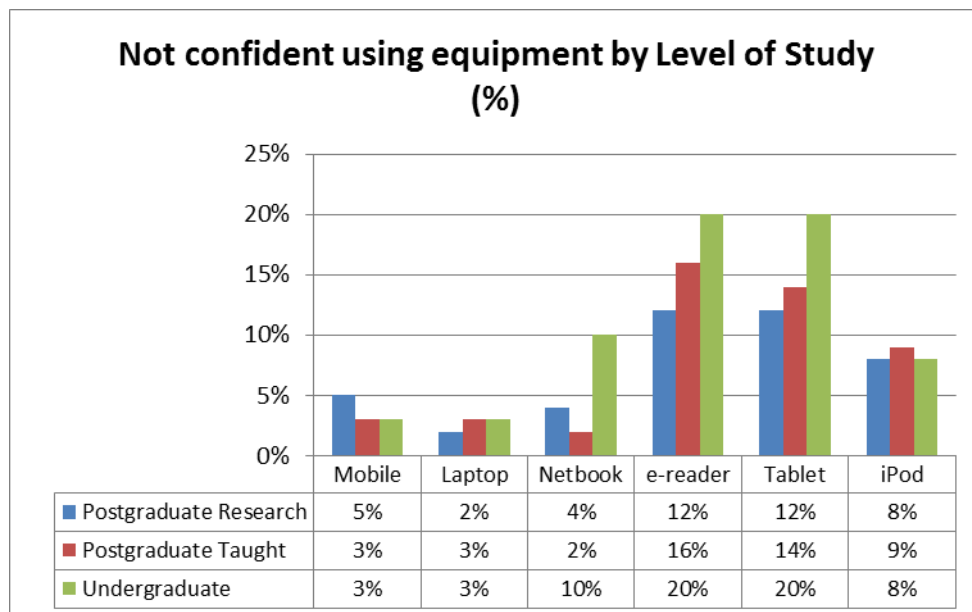
Undergraduates are more likely to use a Windows operating system. Research postgraduate students are more likely to have laptops running Linux (3%), Macs (20%) and 'other' (2%). Research postgraduates are also more likely to have netbooks running Linux (23%) or 'Other' netbooks (3%).

### 10.5d Accessing wireless



There are issues connecting Smartphones to Eduroam across the board but this is highest in undergraduates. Undergraduates appear to have the most issues in connecting all equipment to the wireless network except for laptops. Postgraduate research students have more problems connecting their laptops to Eduroam.

### 10.5e Support needs



There are more postgraduate research students who are not confident in using their Smartphones. For netbooks, e-readers and tablets undergraduates are least confident in using them.

## **11. Conclusions**

### **Equipment Ownership**

Following this survey we have a better understanding of mobile devices equipment and makes within our student population. It is clear that our students own higher numbers of mobile equipment than the UK average. In an environment such as the University it is likely that there will be a number of students with a diverse range of mobile equipment and operating systems. This is particularly apparent in the Faculty of Engineering and the Faculty of Science.

We need to design student systems taking into account the information we have regarding mobile access of our services but also the variety of equipment and different operating systems utilised.

### **Wireless**

There is a clear issue with connecting to wireless, particularly for female and undergraduate students. This may be due to difficulties connecting the equipment they own (i.e. Blackberrys) or it may be that we are not offering sufficient support to them. This needs to be investigated further.

### **Bringing Equipment on Campus**

There is a difference between equipment ownership and the equipment that is brought onto campus. This may be due to issues of portability or security (although security concerns were not raised in this survey). It may also relate to issues with wireless. These variables indicate a need for further investigation.

### **CampusM**

Those students who do use CampusM seem to appreciate it and want an expansion of the service it provides. The information we now have will enable further developments to the service as requested by students.

### **Further Support**

Students seem to favour information on websites with female students wanting more support than male students. There are also differences within faculties regarding support requirements. Undergraduates also seem to require further support, with other groups more confident, perhaps due to familiarity with our services.

## **12. Recommendations**

The survey has highlighted issues that require further investigation to establish what action to take. This could be analysing the survey data further or carrying out further market research. Under the structure of our Department Service Managers will take this forward where it applies to their area.

<b>Issue</b>	<b>Action</b>	<b>Area</b>	<b>Date</b>
Equipment Ownership	Data to be disseminated within CiCS to improve services	Customer Services	October 2011
Wireless	Create a working group to look at how to facilitate wireless access	Help and Support	November 2011
Bringing equipment on campus	Feed into service review of learning spaces	Learning and Teaching	November 2011
CampusM	Identify resource to develop mobile app and mobile web  Ensure feedback is fed into	Communication and Collaboration	September 2011

	development process and added to development plan		November 2011
Further Support	Look at further developing student support following wireless investigations	Help and Support	January 2012
Regular Surveys	Survey to be repeated every 2 years	Customer Services	February 2013