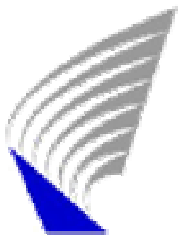


Finnish Smartphone Study 2007

COIN/MOMI Project Report (TKK)



May 2008

Contact: Niklas Tirkkonen, Borja Salmeron, Hannu Verkasalo
Helsinki University of Technology / Networking Laboratory

<http://www.netlab.hut.fi/tutkimus/coin/>

<http://www.netlab.hut.fi/tutkimus/momi/>



Executive Summary



- Young age is the major driver of smartphone usage - older people do not use devices that actively as younger people
- Significant latent demand remains in capitalizing on multimedia messaging, maps, and email
- In satisfaction and service importance rankings camera, voice and text messaging receive the highest scores
- Browsing is still the most important data service, but multimedia data traffic caught a higher share of total traffic than in previous years



Networking Business Project Roadmap

Activity	2004	2005	2006	2007	2008	2009	2010
LEAD	[Solid Blue Bar]						
COIN			[Solid Green Bar]			[Dashed Green Bar]	
MOMI					[Solid Red Bar]		[Dashed Red Bar]
Network-based measurements		[Solid Purple Bar]	[Solid Purple Bar]	[Solid Purple Bar]	[Dashed Purple Bar]	[Dashed Purple Bar]	[Dashed Purple Bar]
Handset measurements		[Solid Black Bar]	[Solid Black Bar]	[Solid Black Bar]	[Dashed Black Bar]	[Dashed Black Bar]	[Dashed Black Bar]
Questionnaires					[Dashed Black Bar]	[Dashed Black Bar]	[Dashed Black Bar]

MoMI



Scope of the MoMI project:

- Finnish consumer mobile market
- New Internet services and emerging business models
- Data analysis and mining
- International comparisons



Helsinki University of Technology

<http://www.netlab.hut.fi/tutkimus/momi/>

Structure of Report

- **Research Background and Method**
- **Finnish smartphone study 2007 dataset**
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- **Mobile Internet Adoption**
- **Miscellaneous Study Approaches**
- **Questionnaire Results**

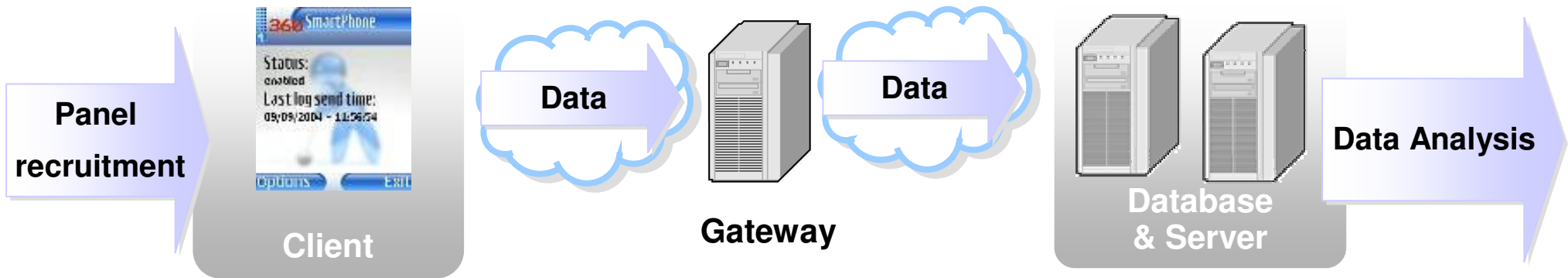


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How does handset-based measurement platform work?



Handset-based client observes applications and service usage on the device.

On daily basis data logs are uploaded over packet data / Internet link to centralized servers.

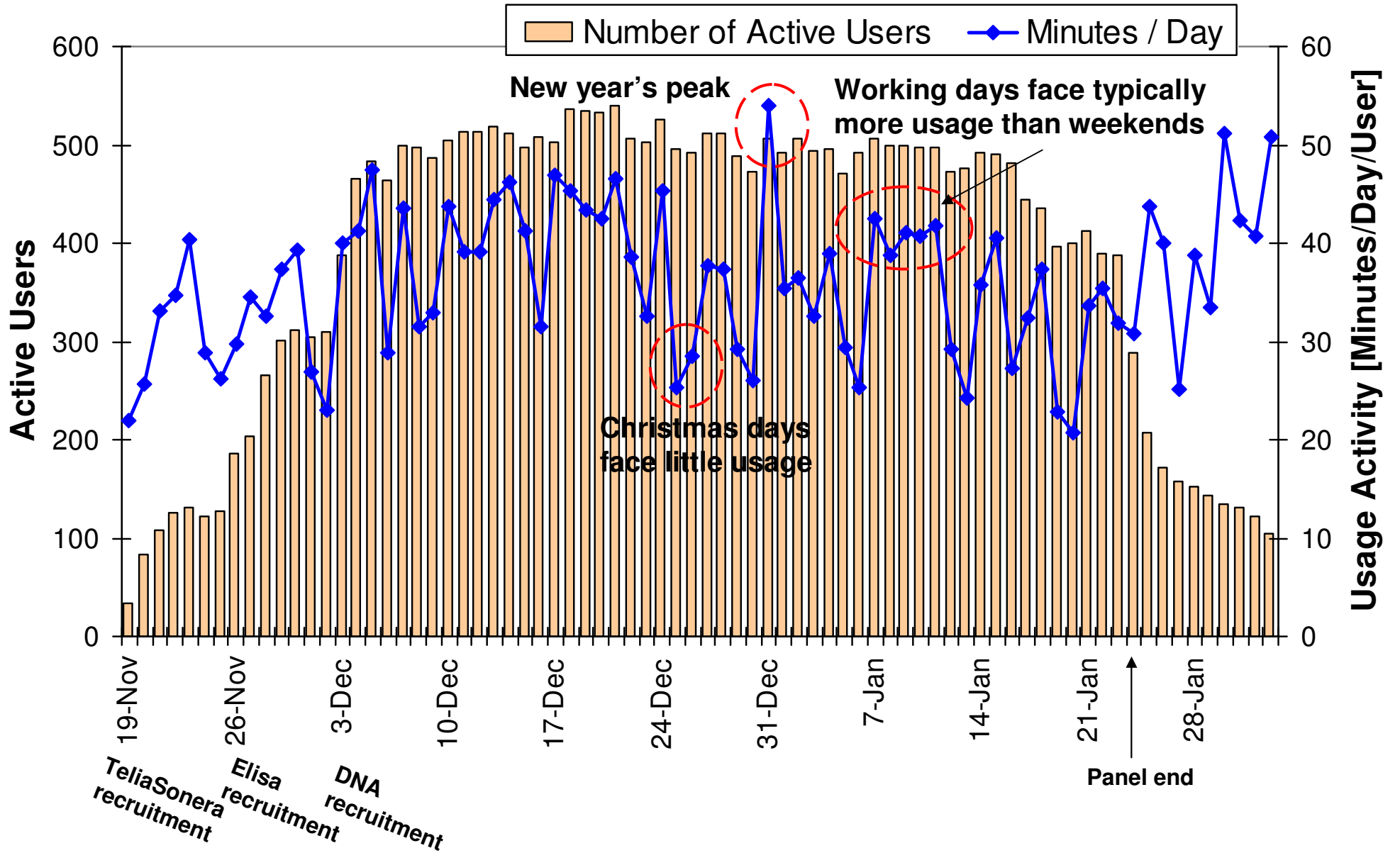
Aggregated raw data is used for analysis and reporting.

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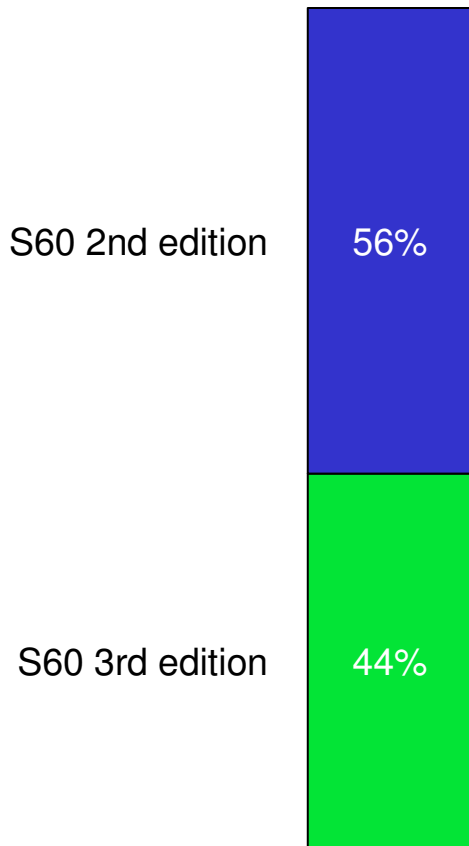


Dataset

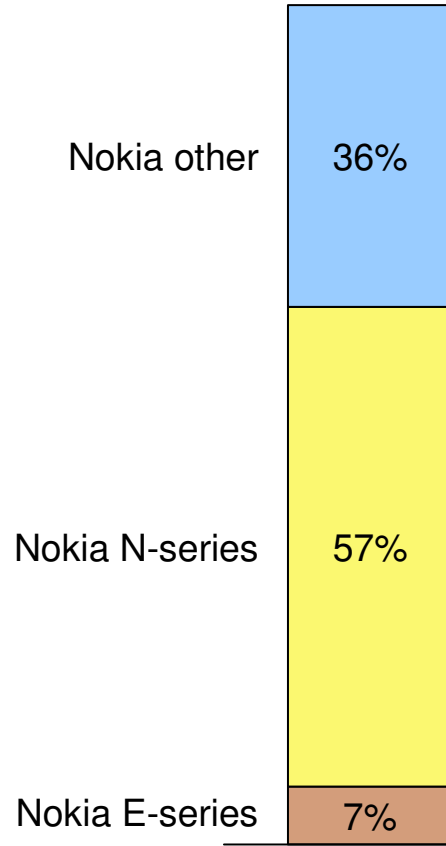


Dataset

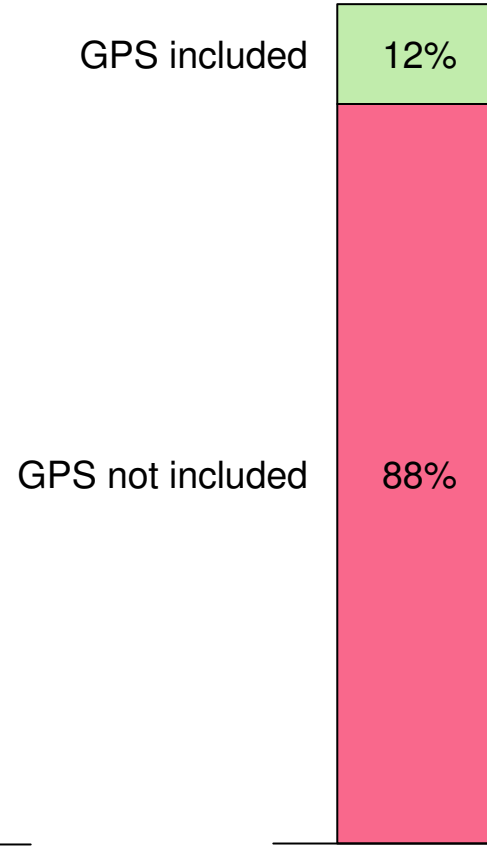
Software Platform



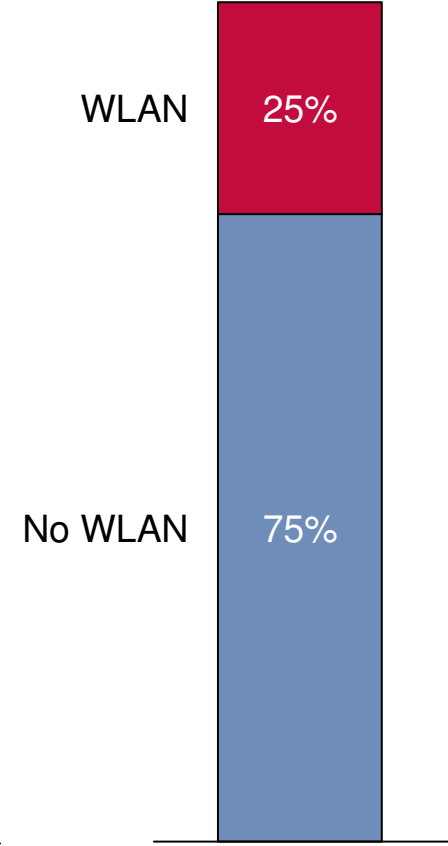
Device Type



GPS Functionality

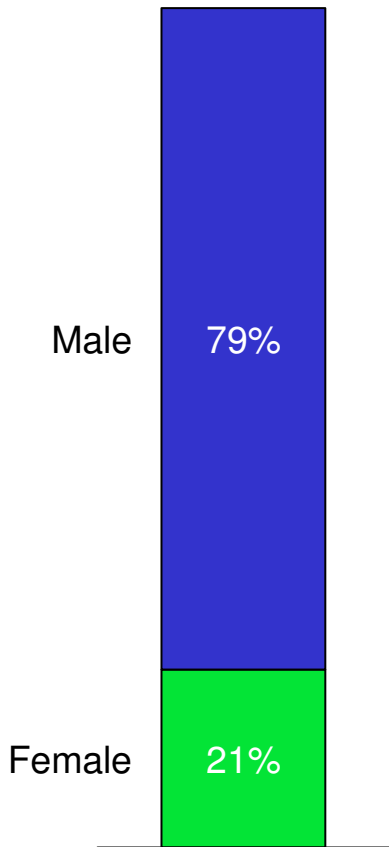


WLAN

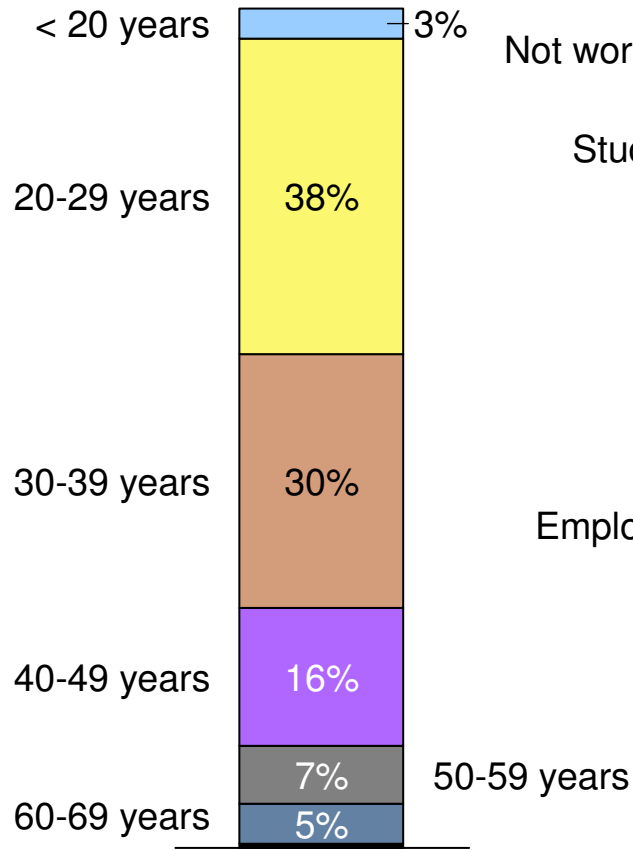


Dataset

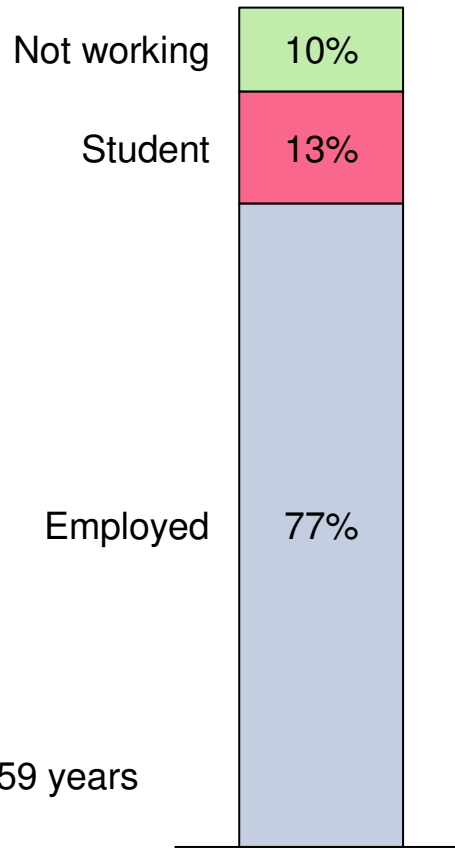
Gender



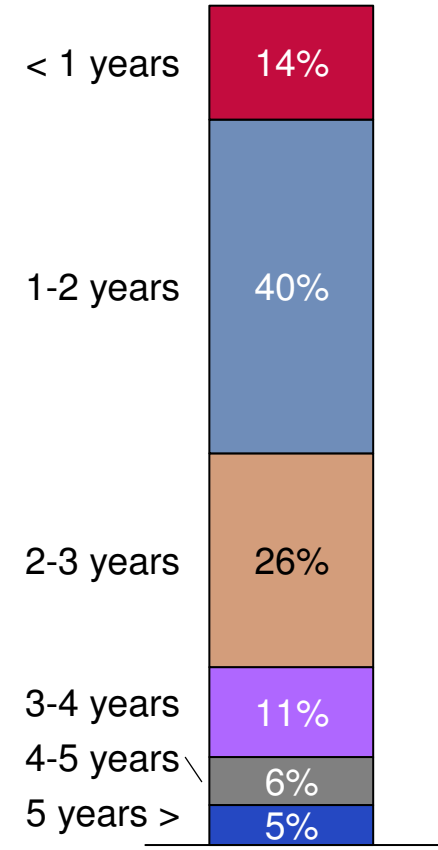
Age



Employment

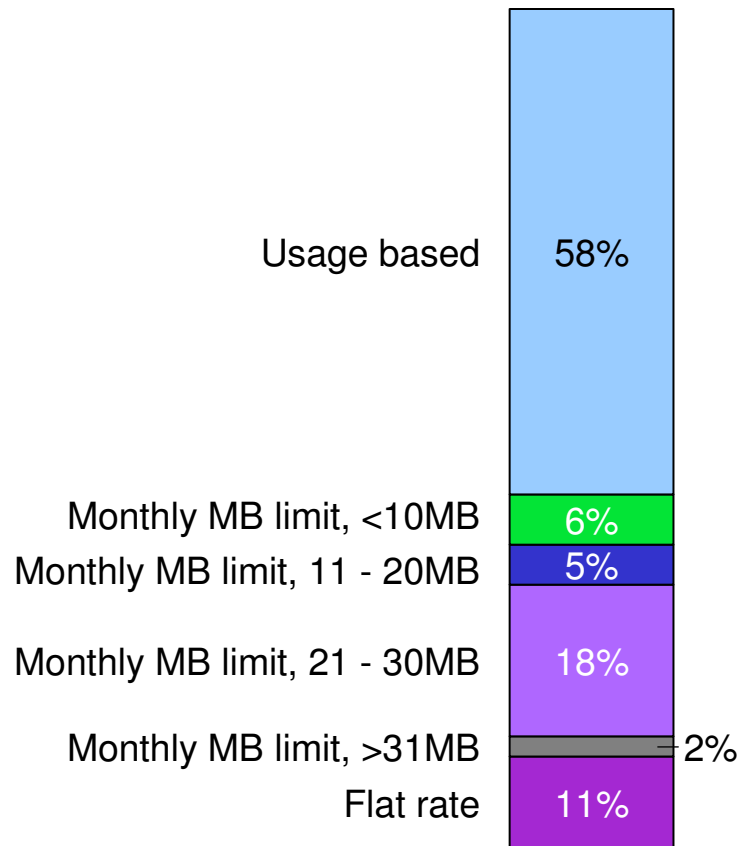


Smartphone usage

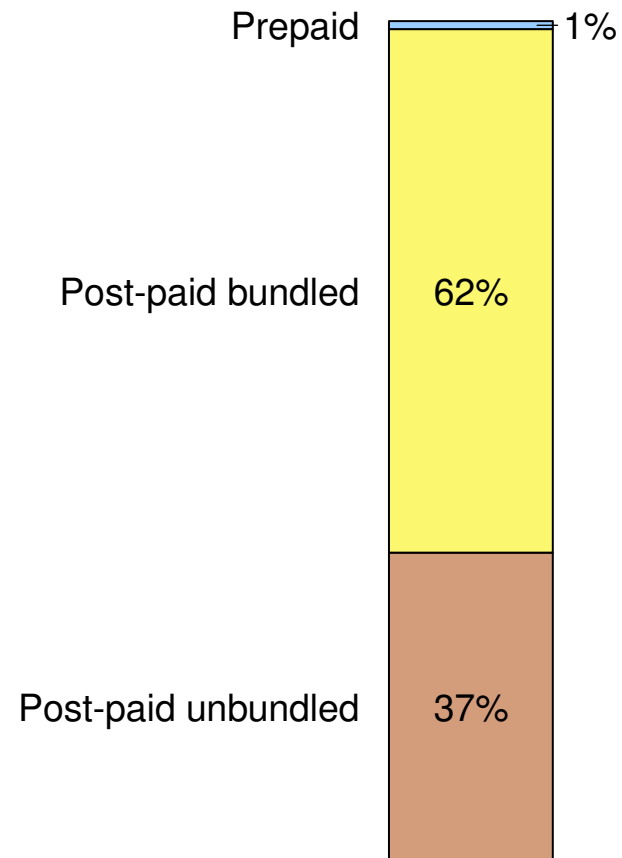


Dataset

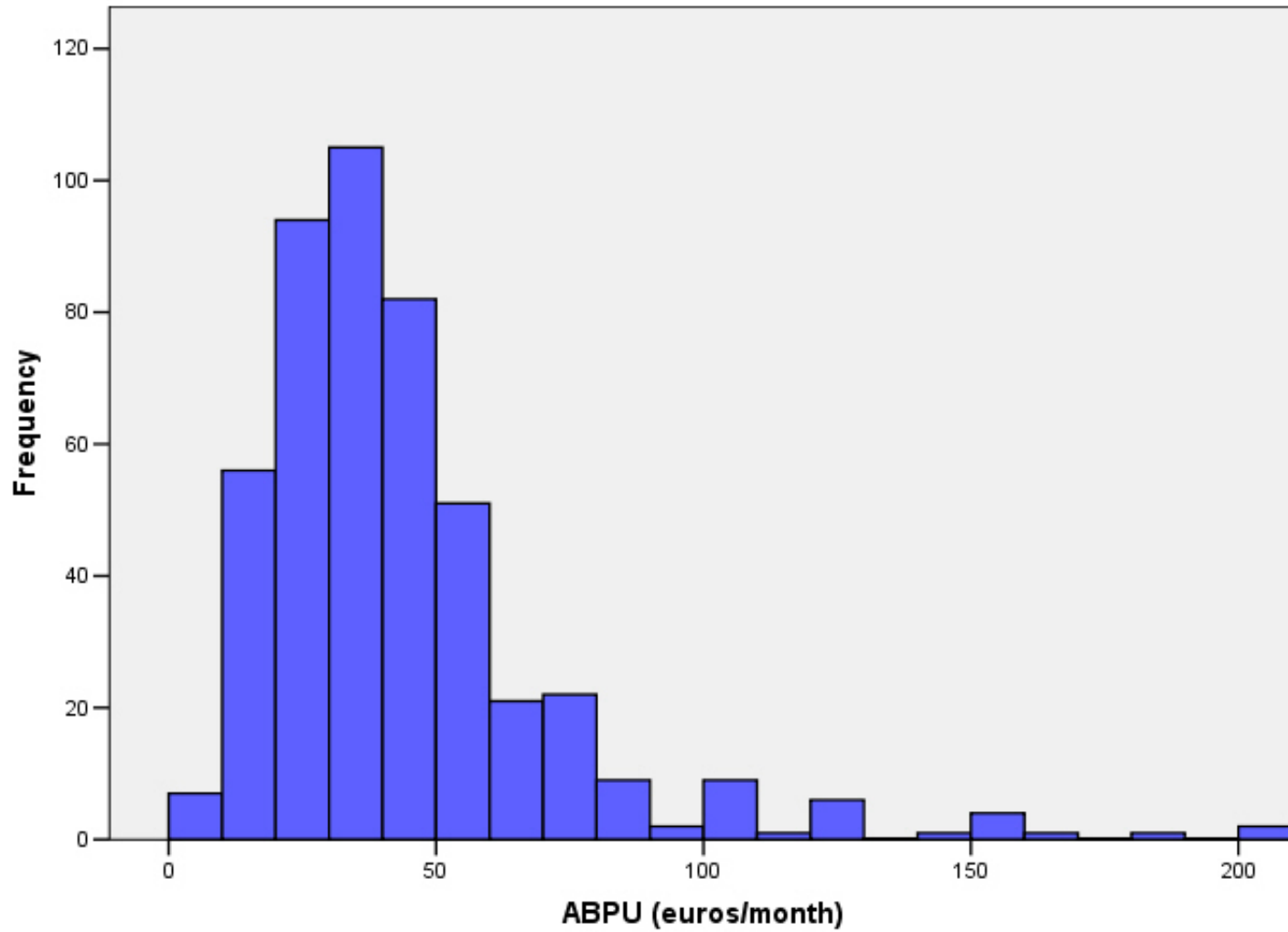
Data Plan



Subscription



Dataset



Mean ABPU:
43 euros / user / month

Median ABPU:
35 euros / user / month

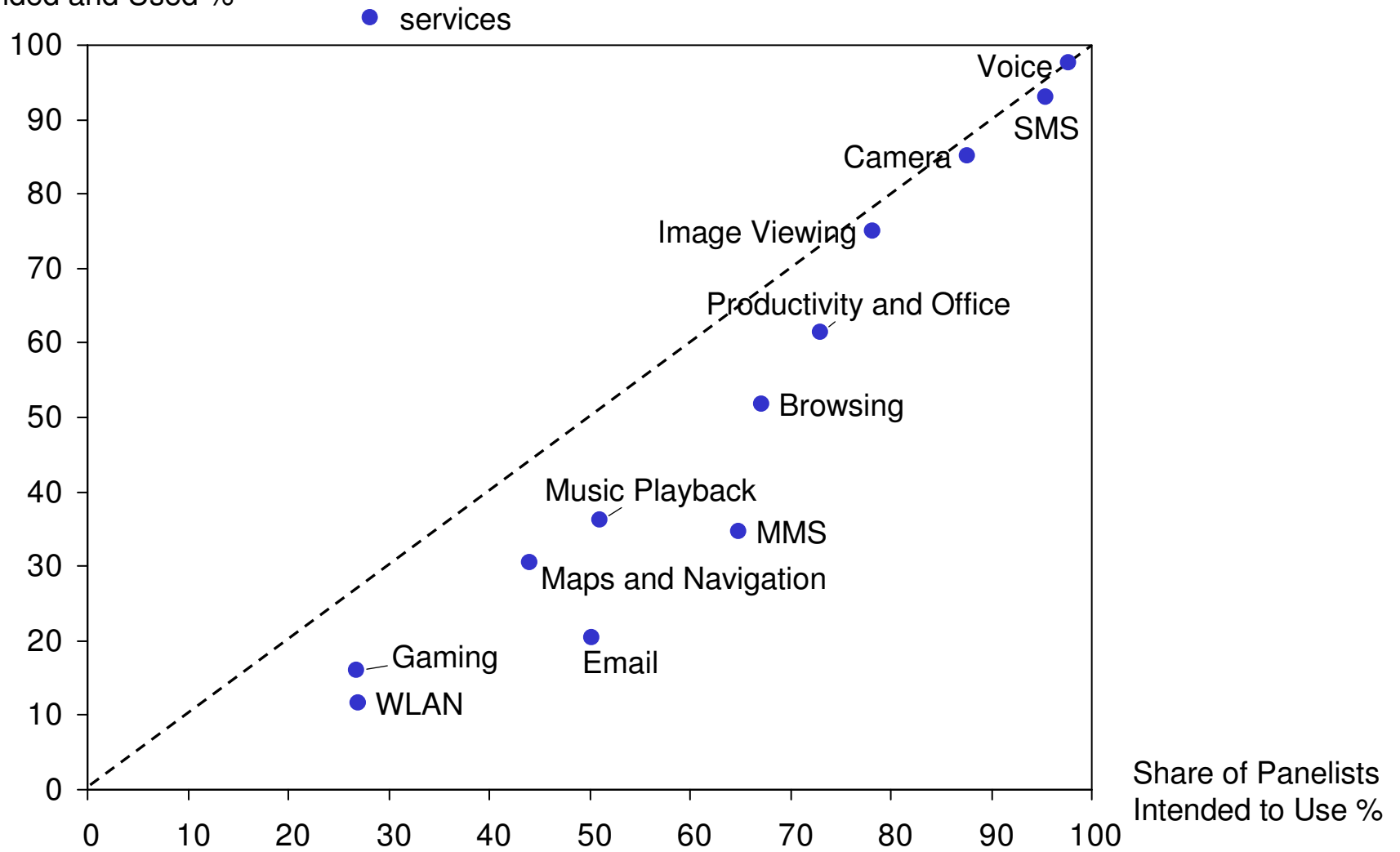
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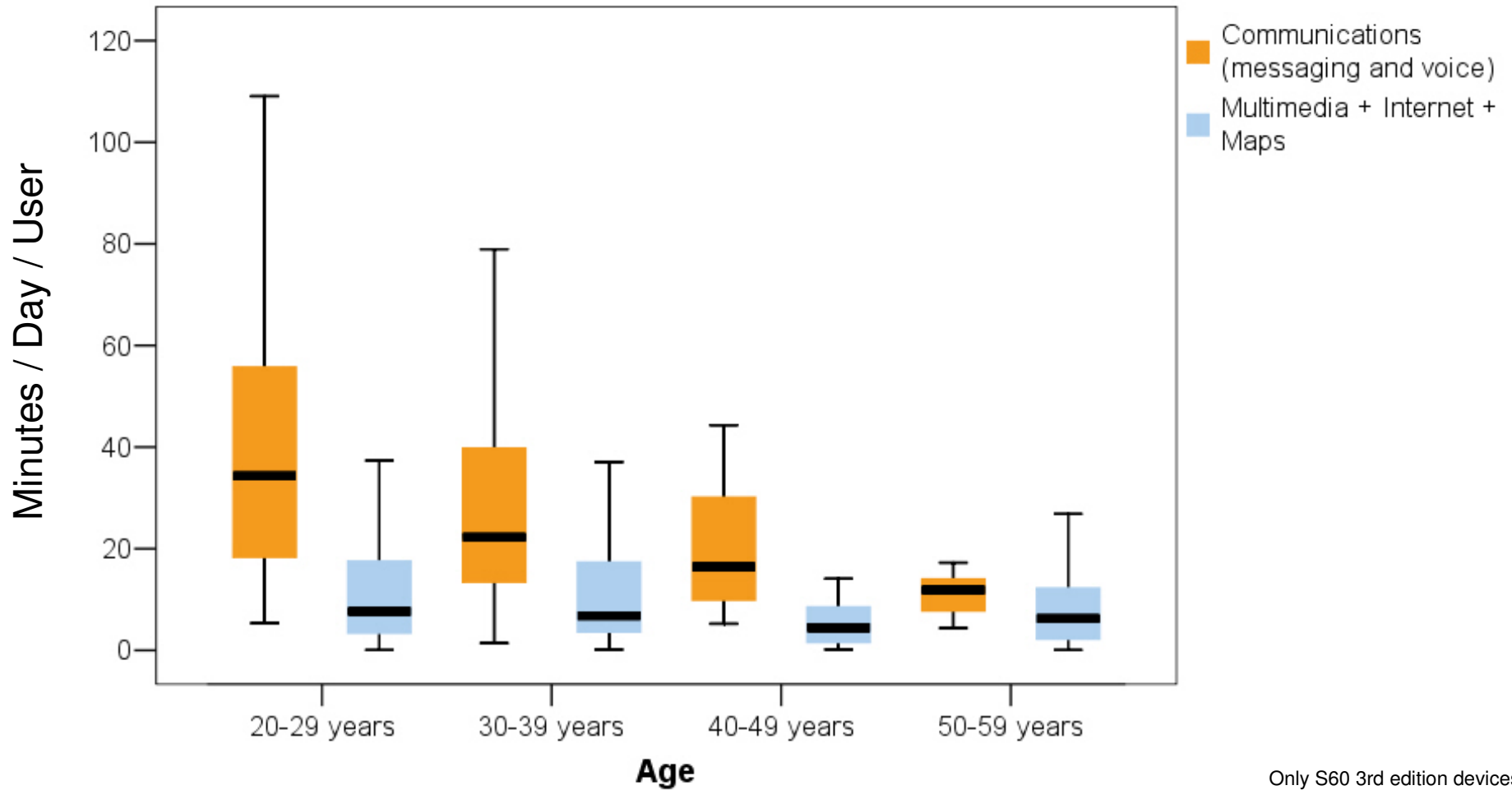


Mobile Service Intention vs. Usage

Share of Panelists Both
Intended and Used %

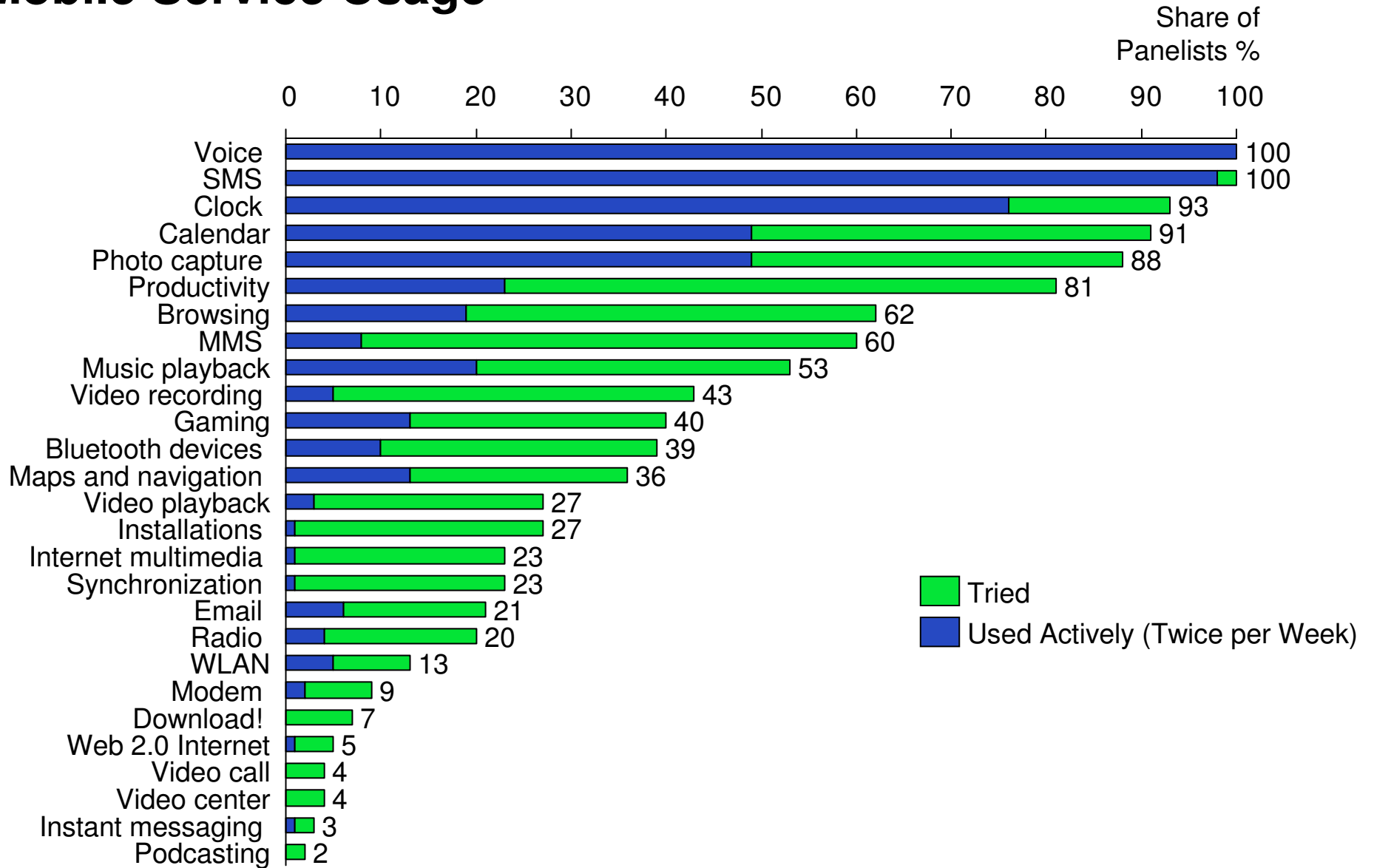


Mobile Service Usage – Age Negatively Correlates with Amount of Usage



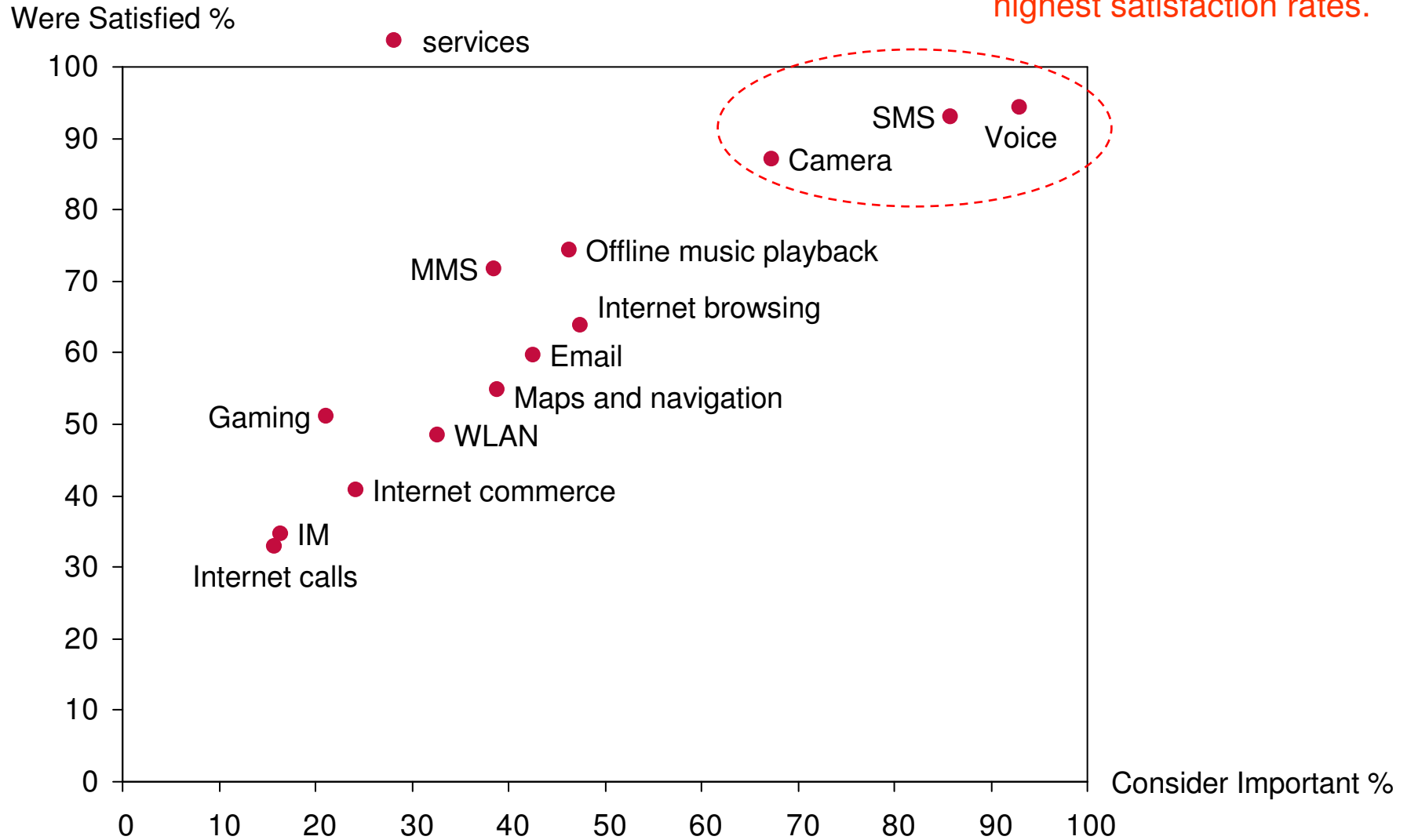
Only S60 3rd edition devices included due to data availability

Mobile Service Usage



Mobile Service Importance vs. Satisfaction

Core services have also highest satisfaction rates.

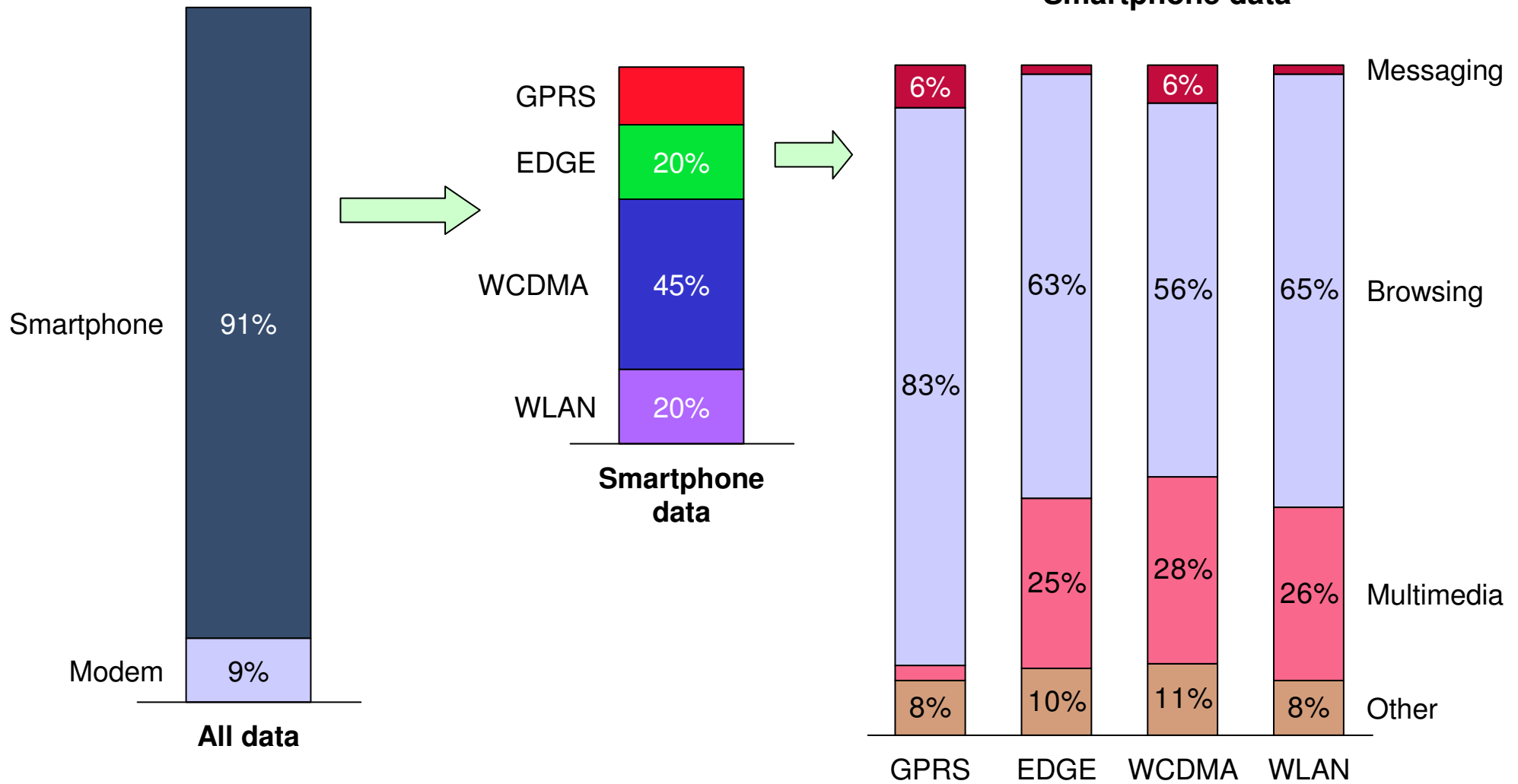


Structure of Report

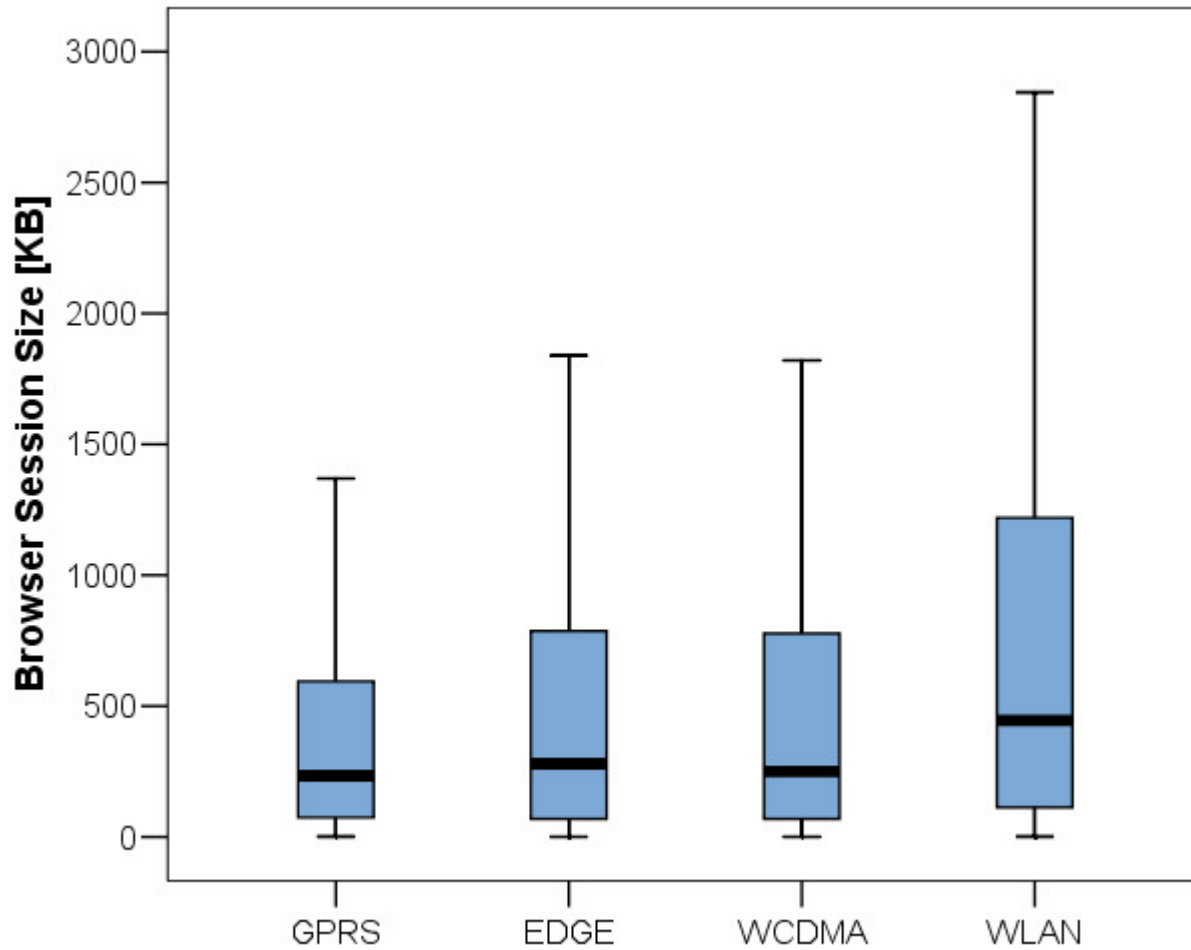
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Mobile Data Usage



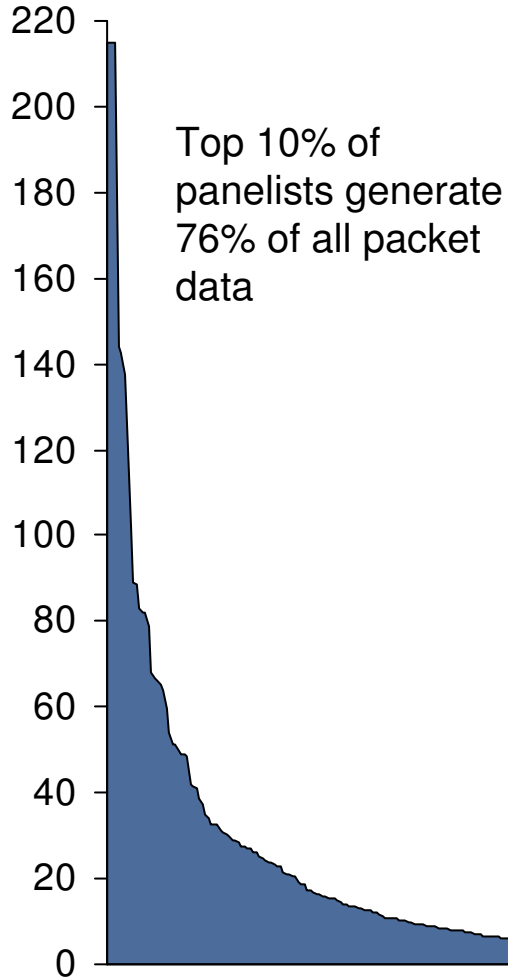
Mobile Data Usage



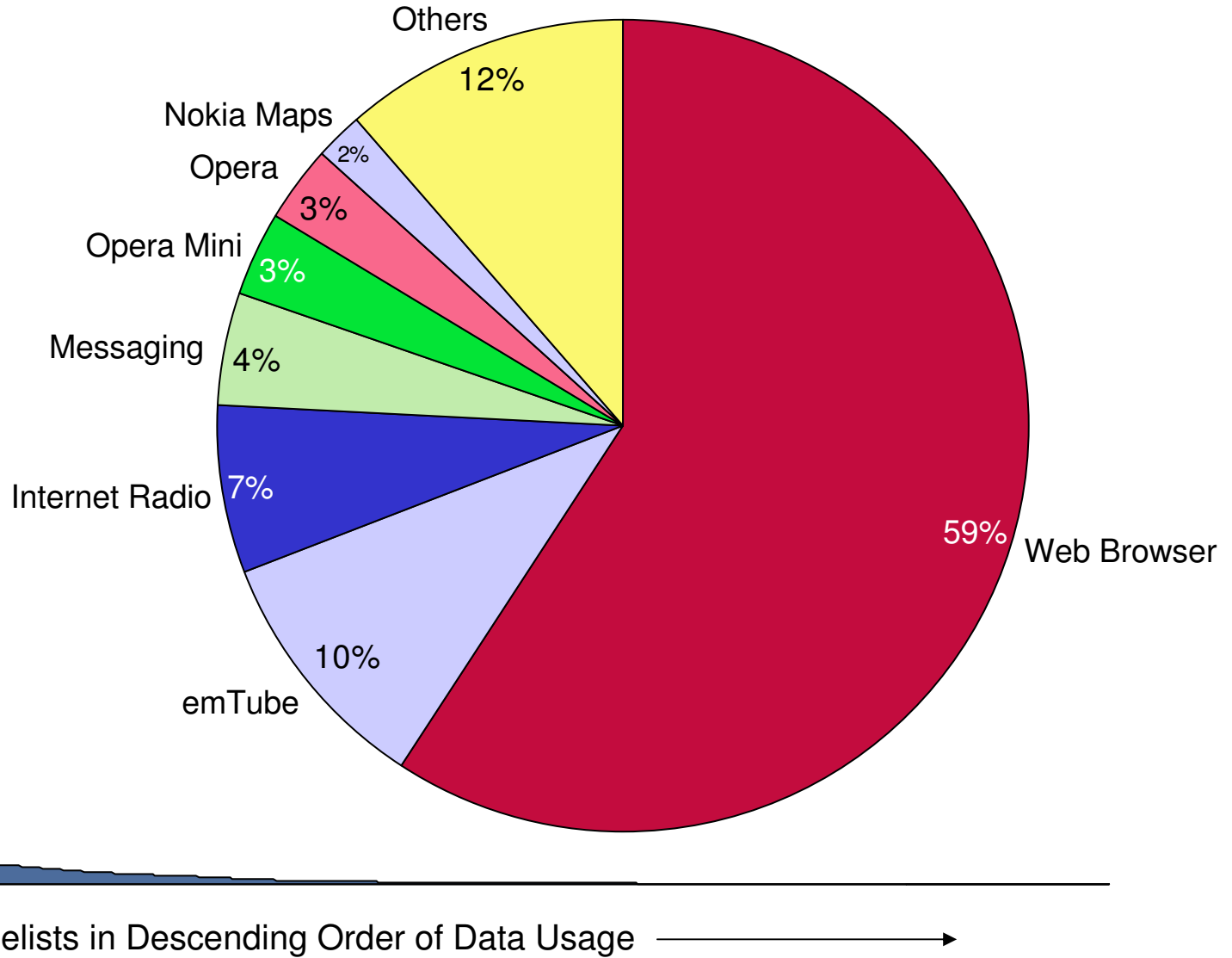
WLAN had a positive impact on browsing session sizes, whereas no significant differences between other bearers were observed.

Mobile Data Usage

MB / User / Month

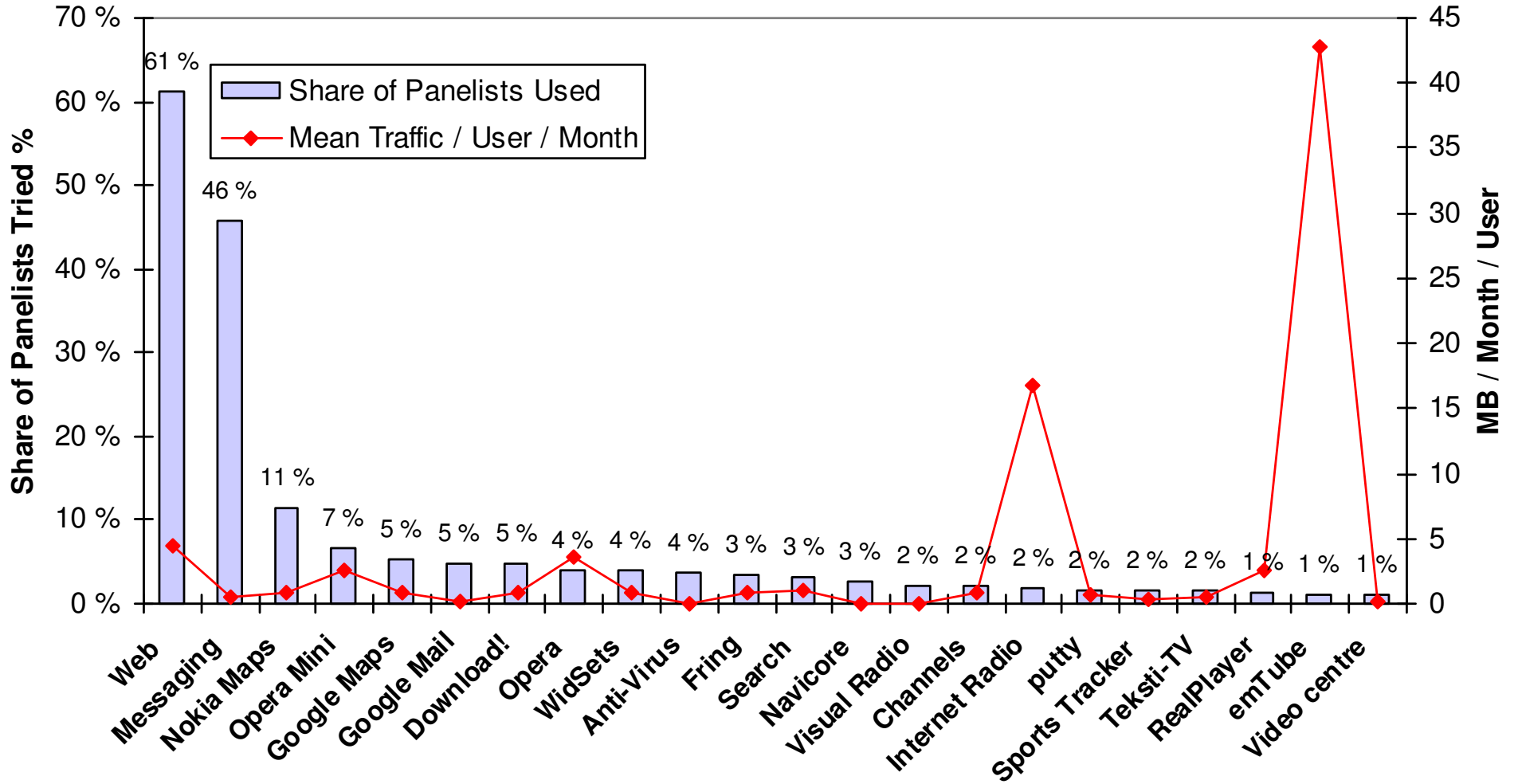


Smartphone Application Data Usage

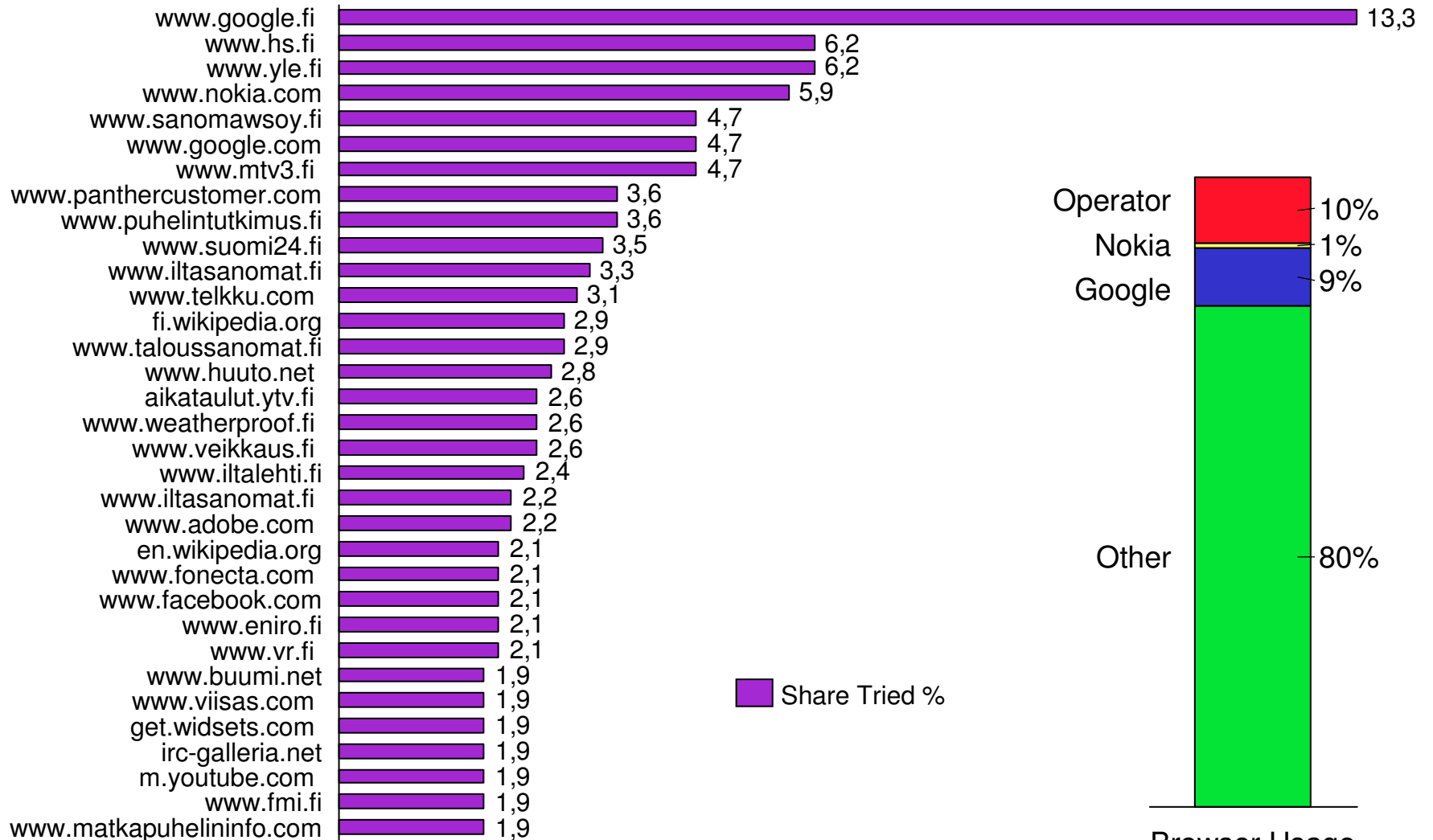


Mobile Data Applications

Data Application Usage

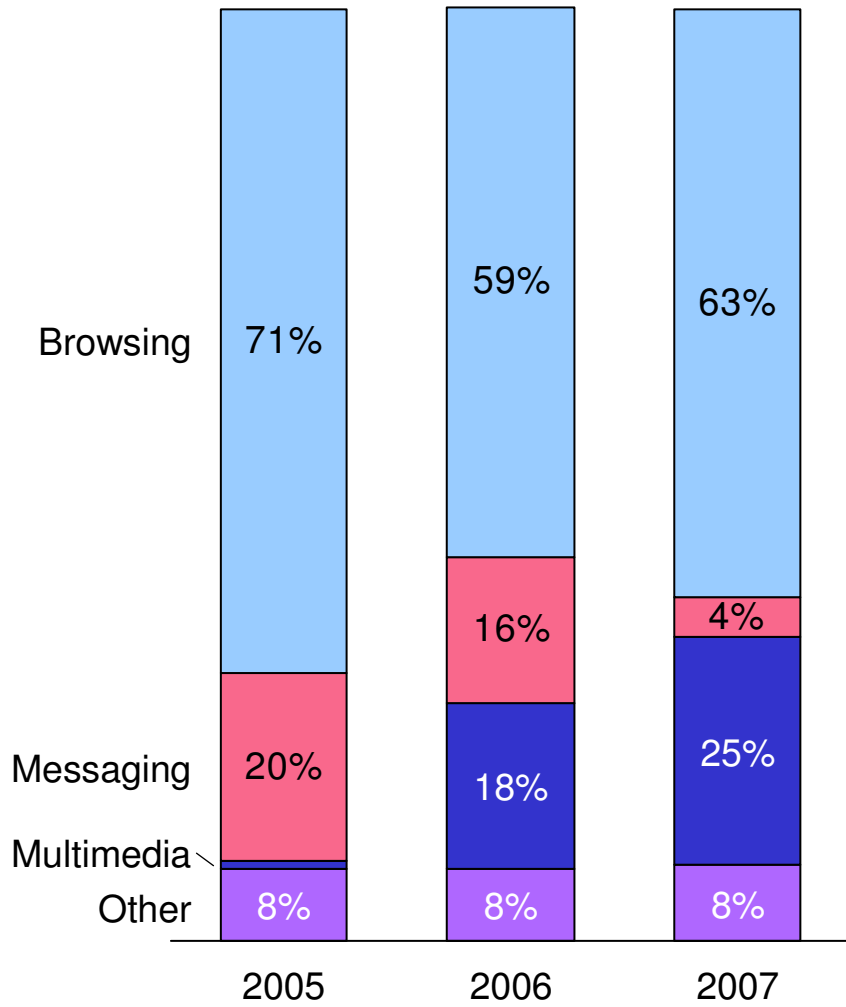


Browser Domain Accesses

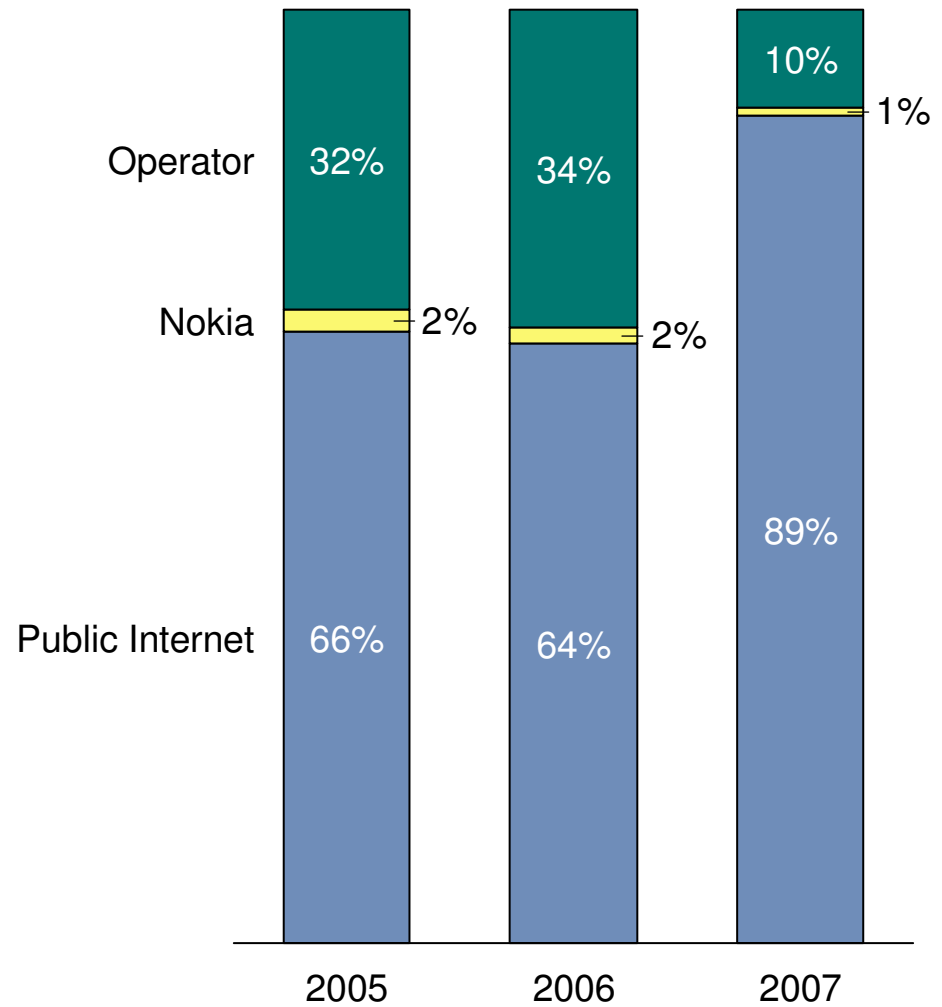


Mobile Internet Evolution

Cumulative Packet Data Traffic



Internet Domain Accesses

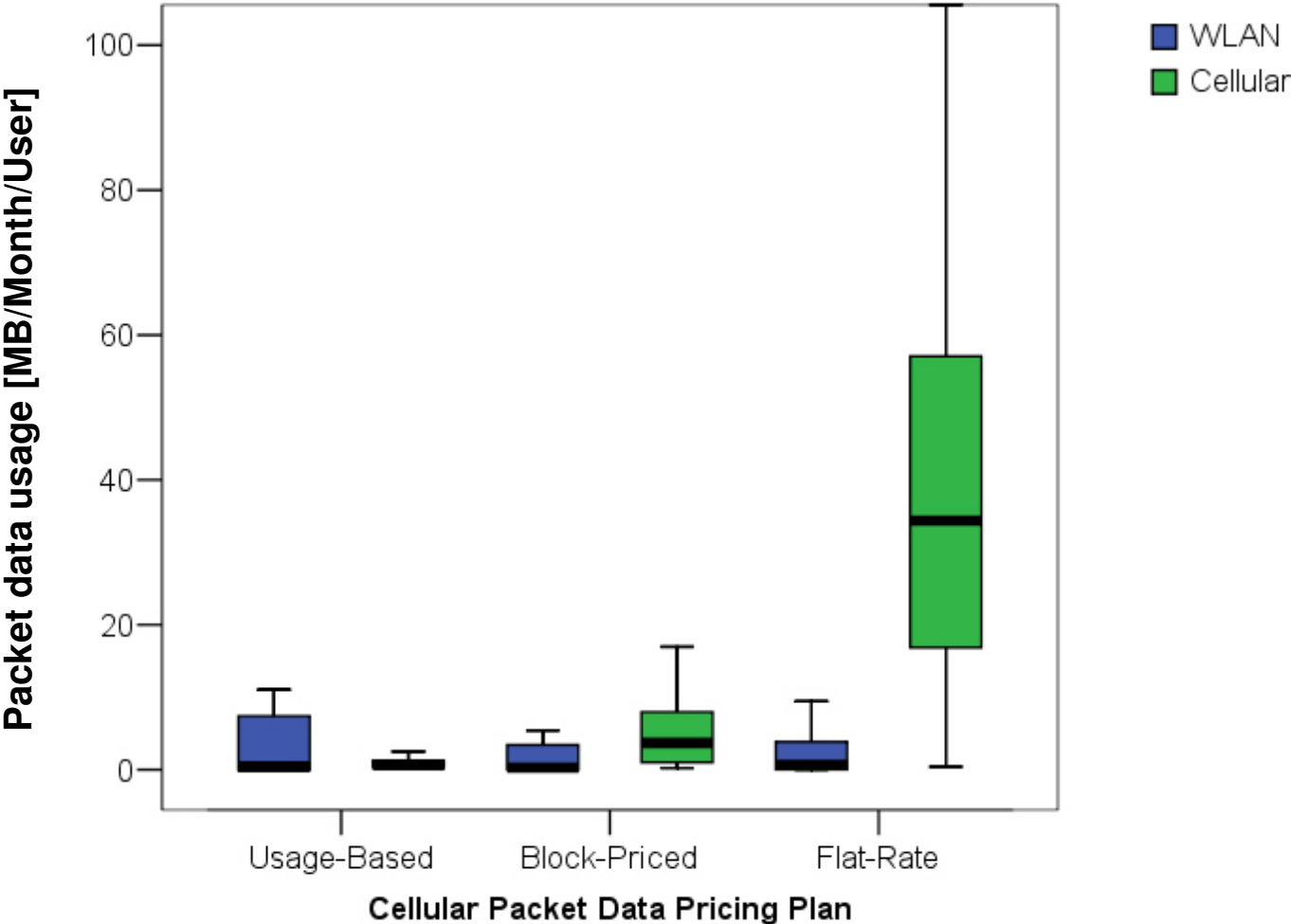


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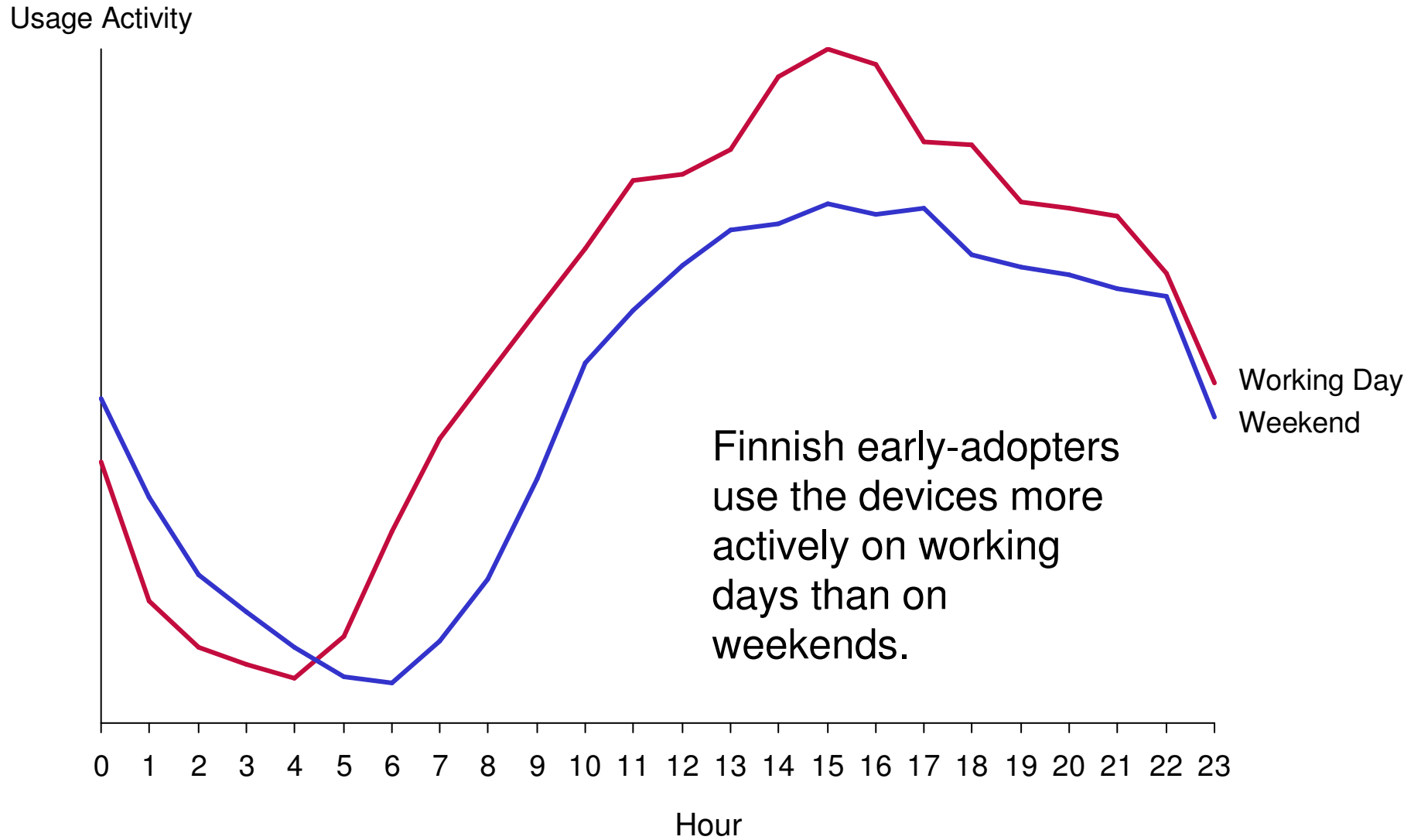
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Impact of Pricing on Service Usage

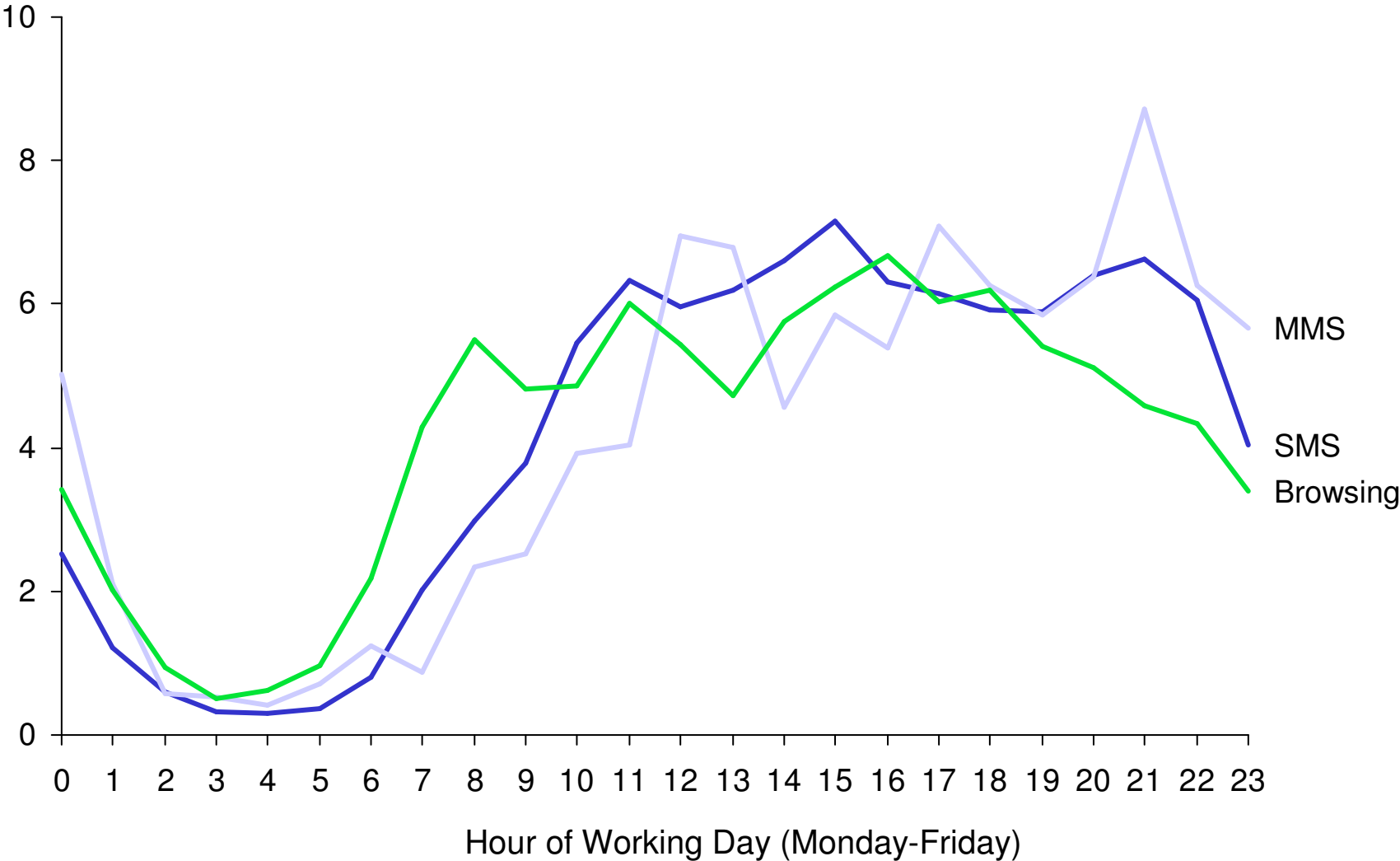


Working Day vs. Weekend Usage

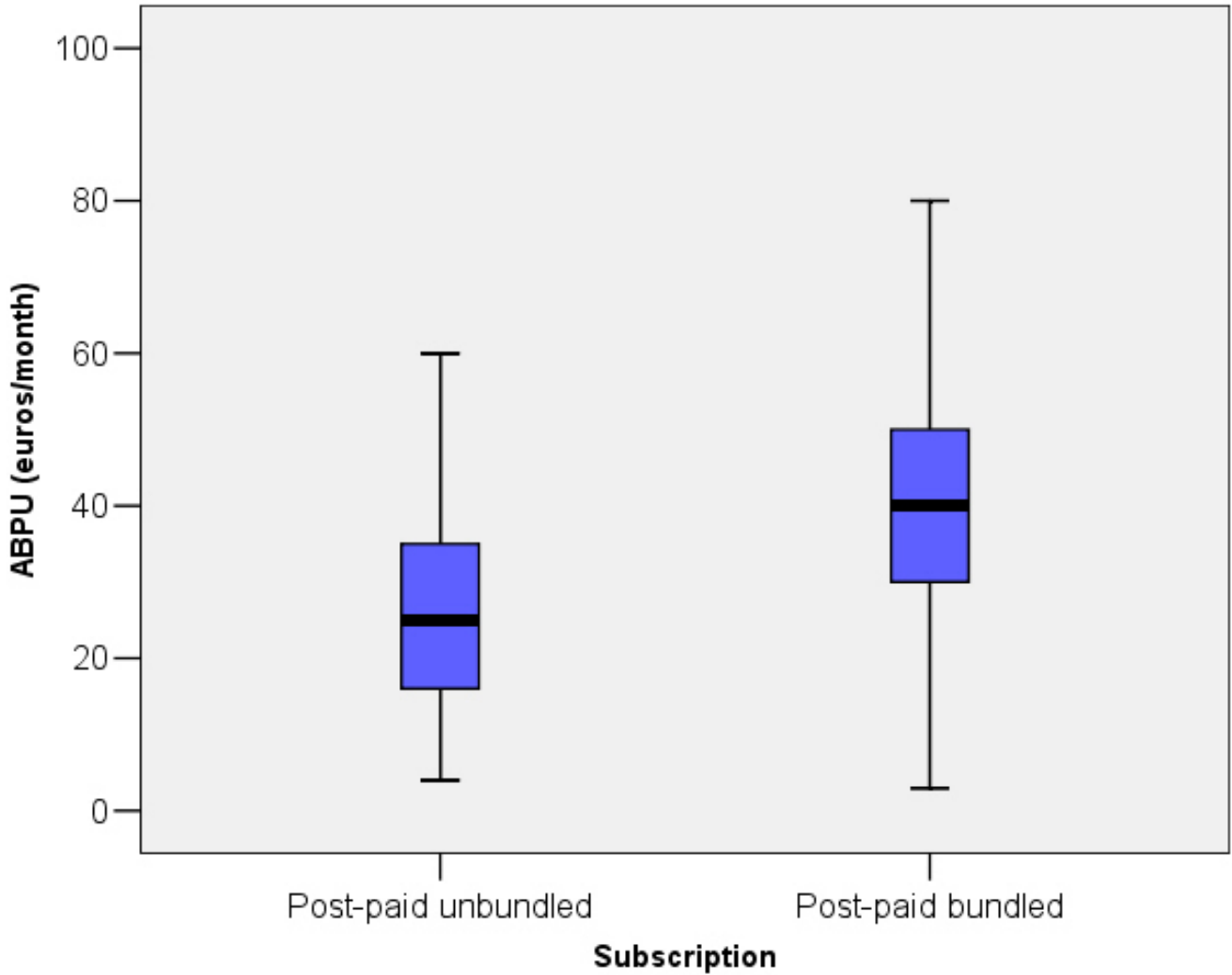


Daily Distribution of Usage

Share of Daily Events

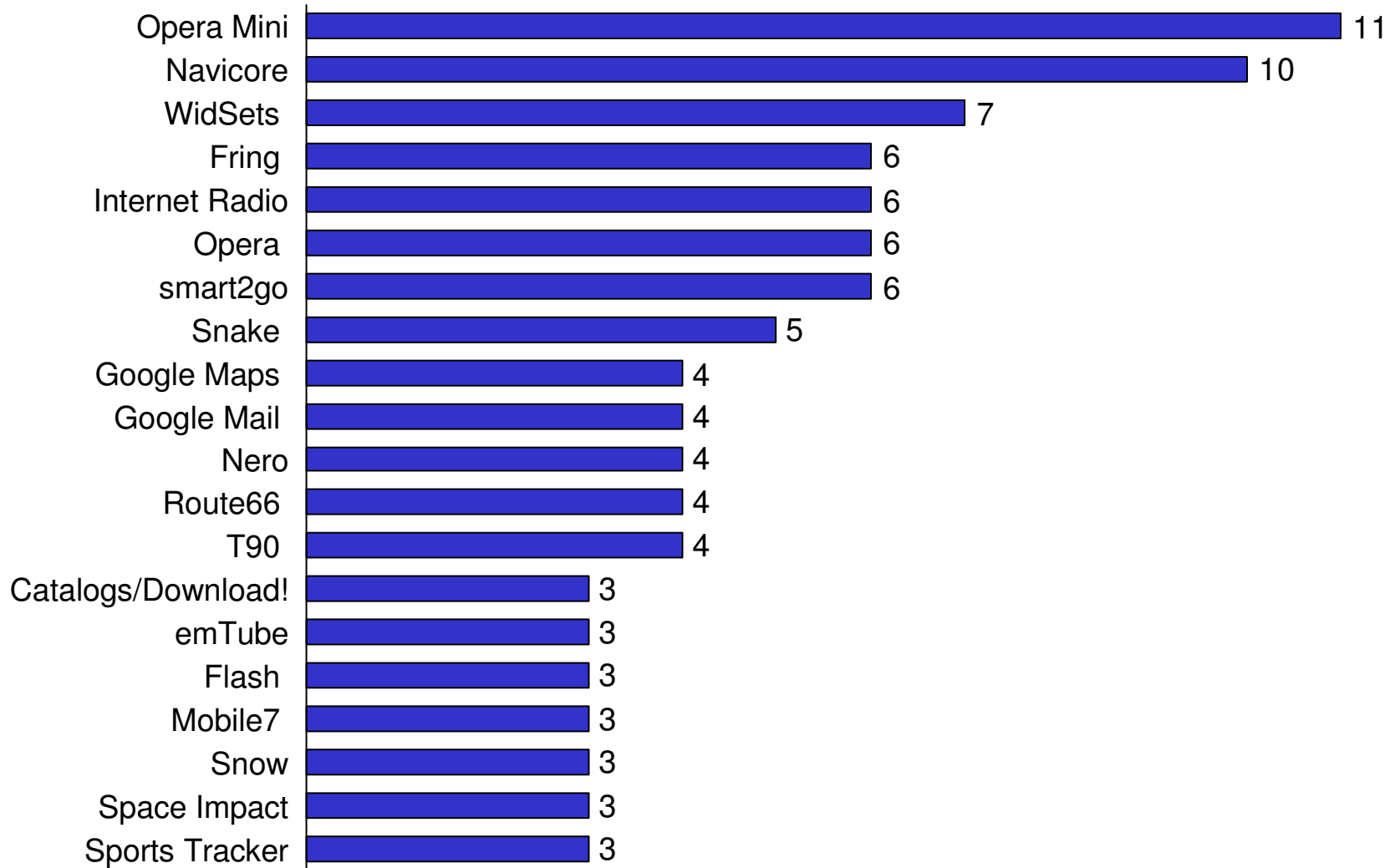


Bundling and ABPU

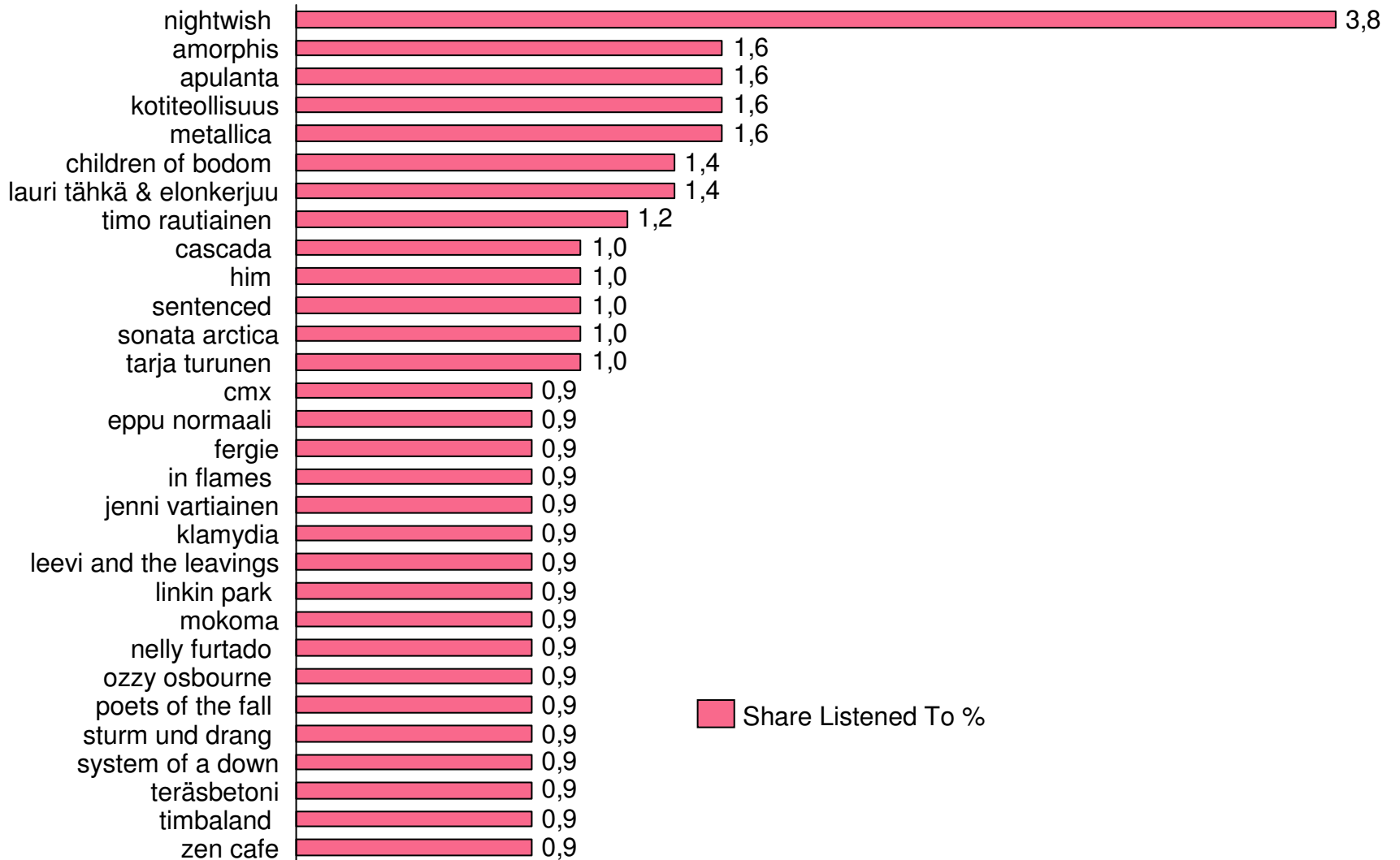


Applications Installations

Users Installed



Mobile Music Artist Ranking in Finland

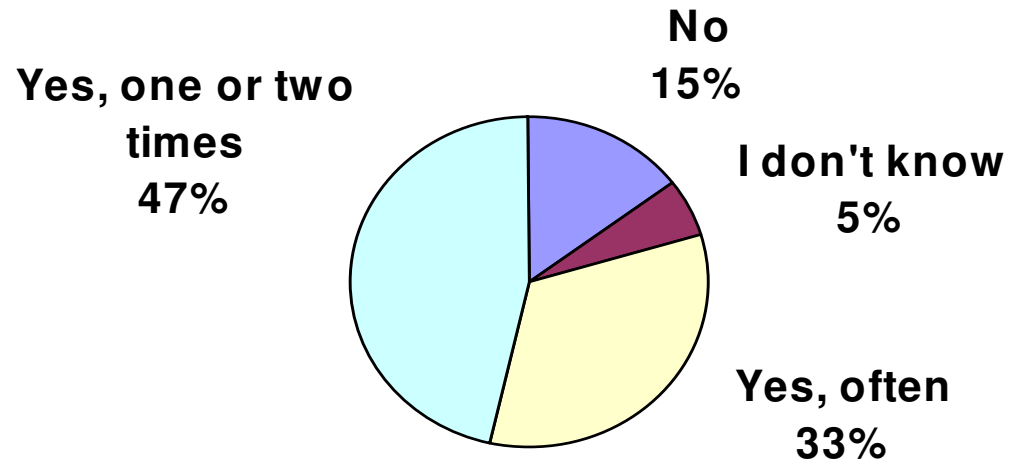


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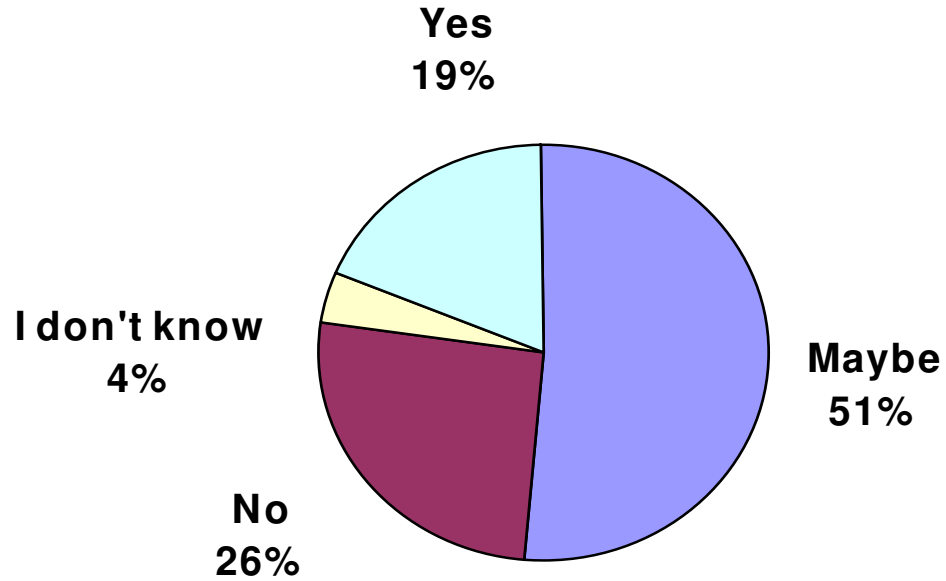


Initial questionnaire - question 16
Have you installed supplementary applications to your mobile phone?



Initial questionnaire - question 21

Would you be willing to receive advertisements to your mobile phone if you got free applications and services in exchange?



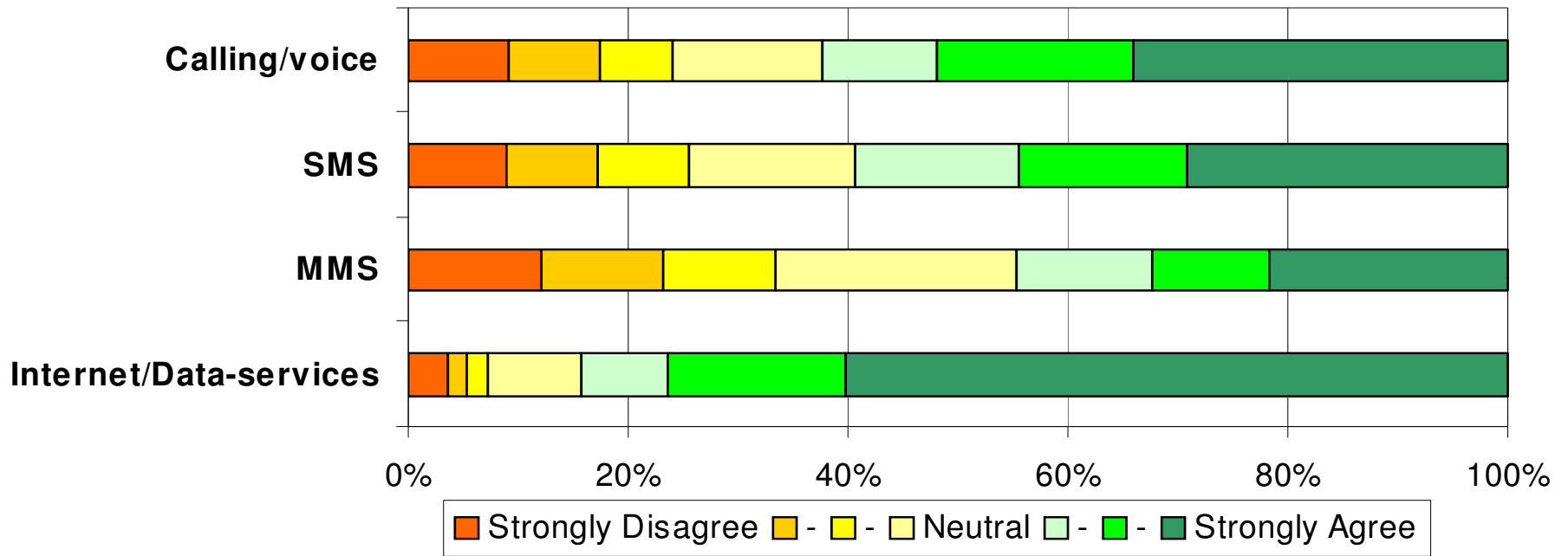
Final questionnaire - question 2

Approximately how much is the monthly cost of the different mobile services that you use?

	I don't know	0	1-5 €	5-10 €	10-20 €	20-30 €	30-50 €	> 50 €
Total cost	2%	0%	2%	6%	20%	38%	0%	33%
Calling/Voice	1%	0%	7%	21%	36%	18%	10%	7%
SMS/MMS	2%	2%	40%	33%	17%	3%	1%	1%
Mobile Internet/Data	3%	15%	47%	25%	9%	1%	0%	1%
Content (ringtones, etc.)	2%	69%	25%	3%	1%	0%	0%	0%

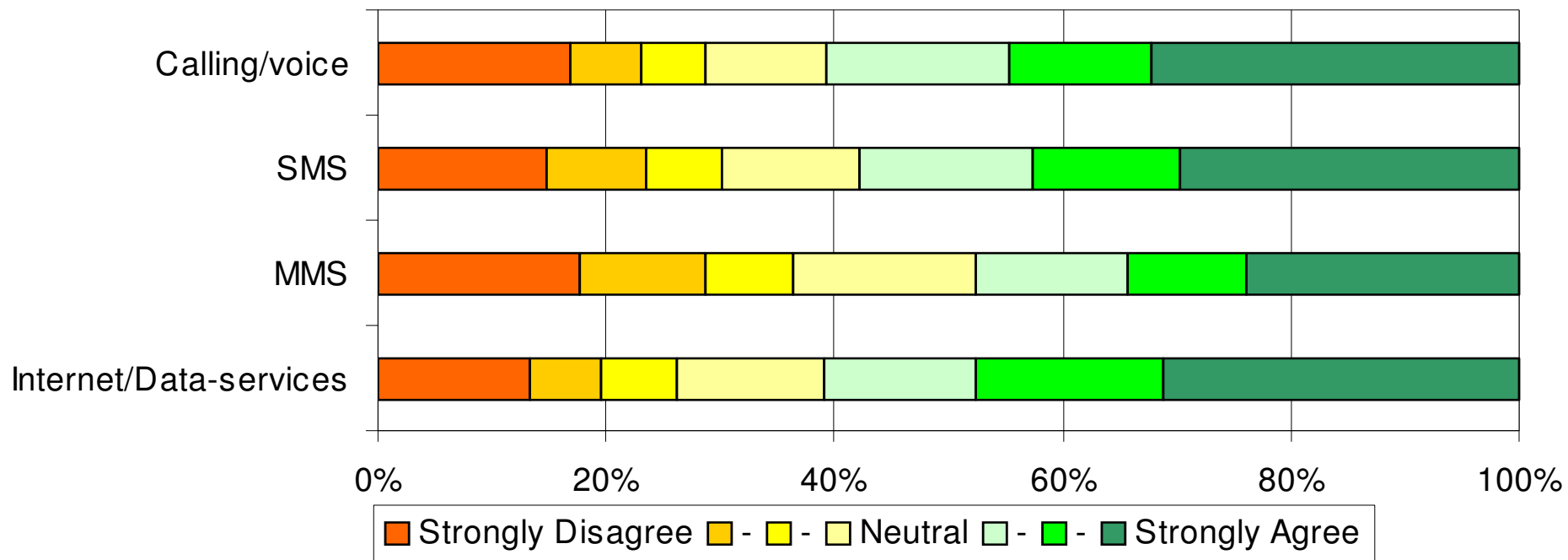
Final questionnaire - question 3

I would prefer flat-rate pricing to unit-based pricing in these services:



Final questionnaire - question 5

I would like to have a free-of-charge service in the following service categories, and to justify this I would give the operator a permission to send targeted advertising to me.

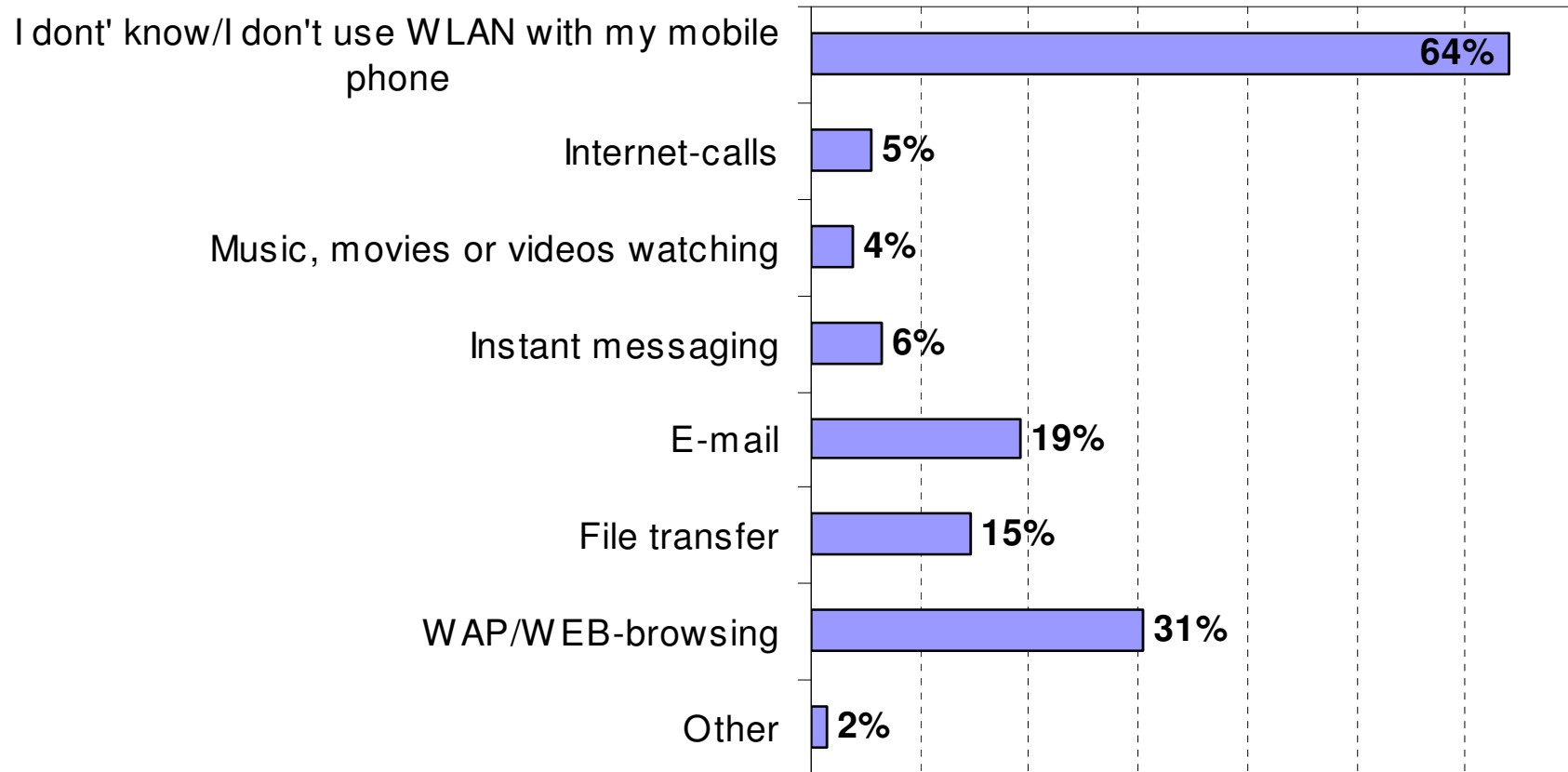


Final questionnaire - question 9

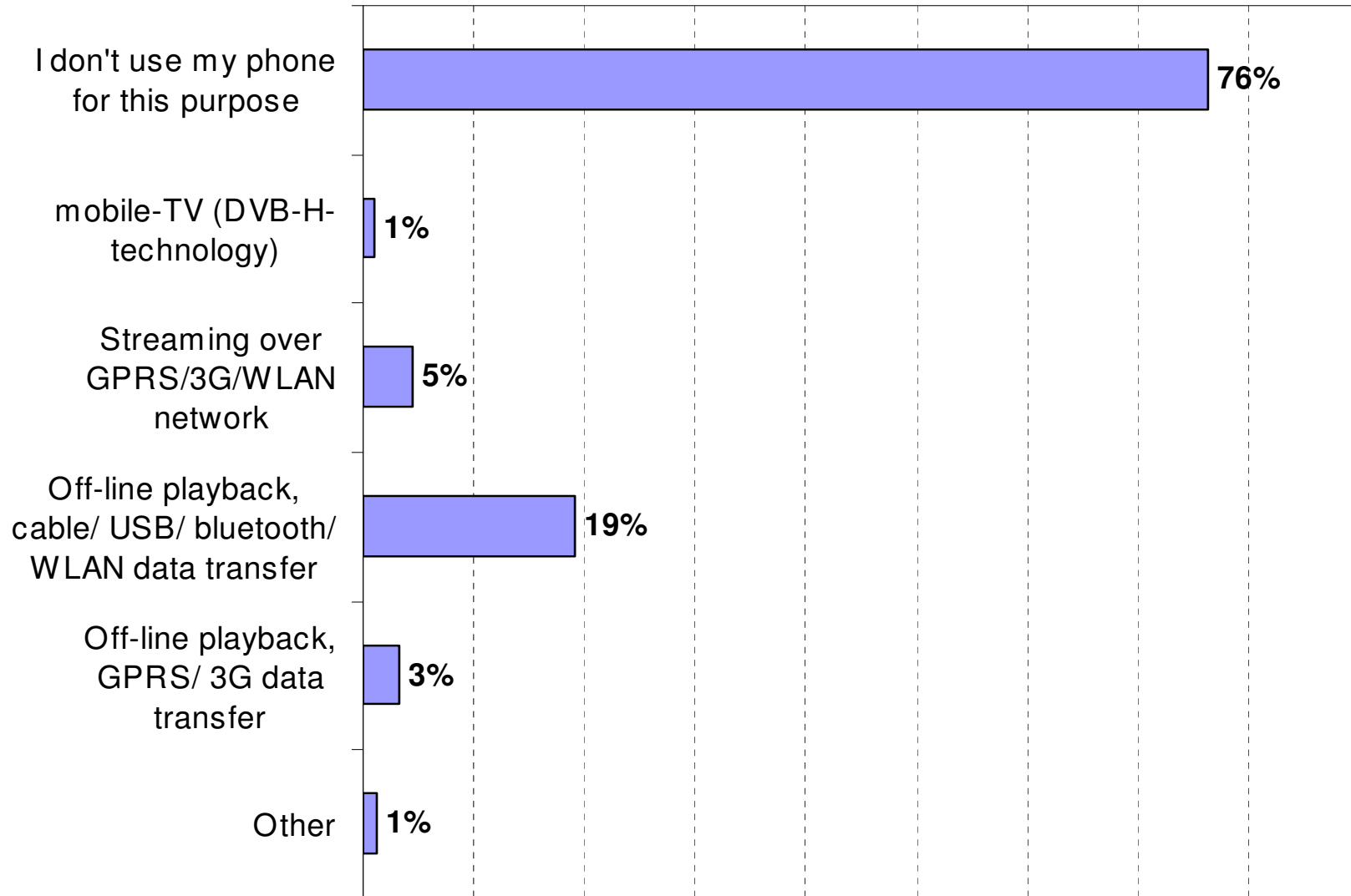
**Do you use your phone in any of these situations? If so, which of its functions do you use?
(Multiple options can be marked on each row)**

	Doesn't concern me	Don't use it in this situation	Voice call	SMS/ MMS	Email	Surfing the web	MP3/ radio
When I'm at home	0%	1%	99%	96%	15%	24%	28%
When I'm in a car, taxi, on a bus, or a train	0%	3%	92%	84%	26%	35%	41%
When I'm shopping, in a restaurant, outside walking, or some other leisure activity	0%	4%	95%	89%	20%	33%	30%
When I'm studying/working	2%	9%	82%	80%	22%	23%	16%

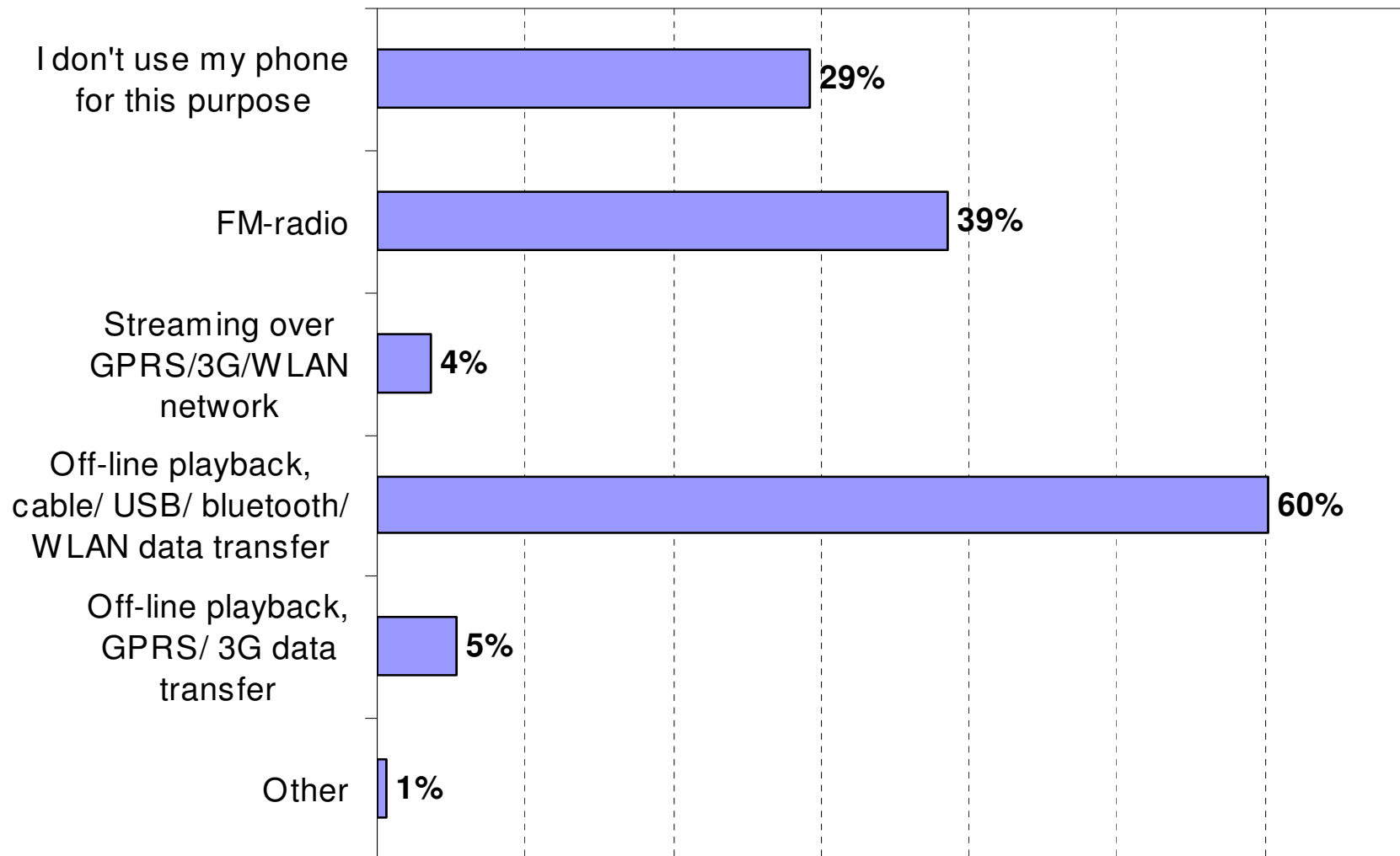
Final questionnaire - question 13
**What of the following services you use with your mobile phone
with WLAN connection?**



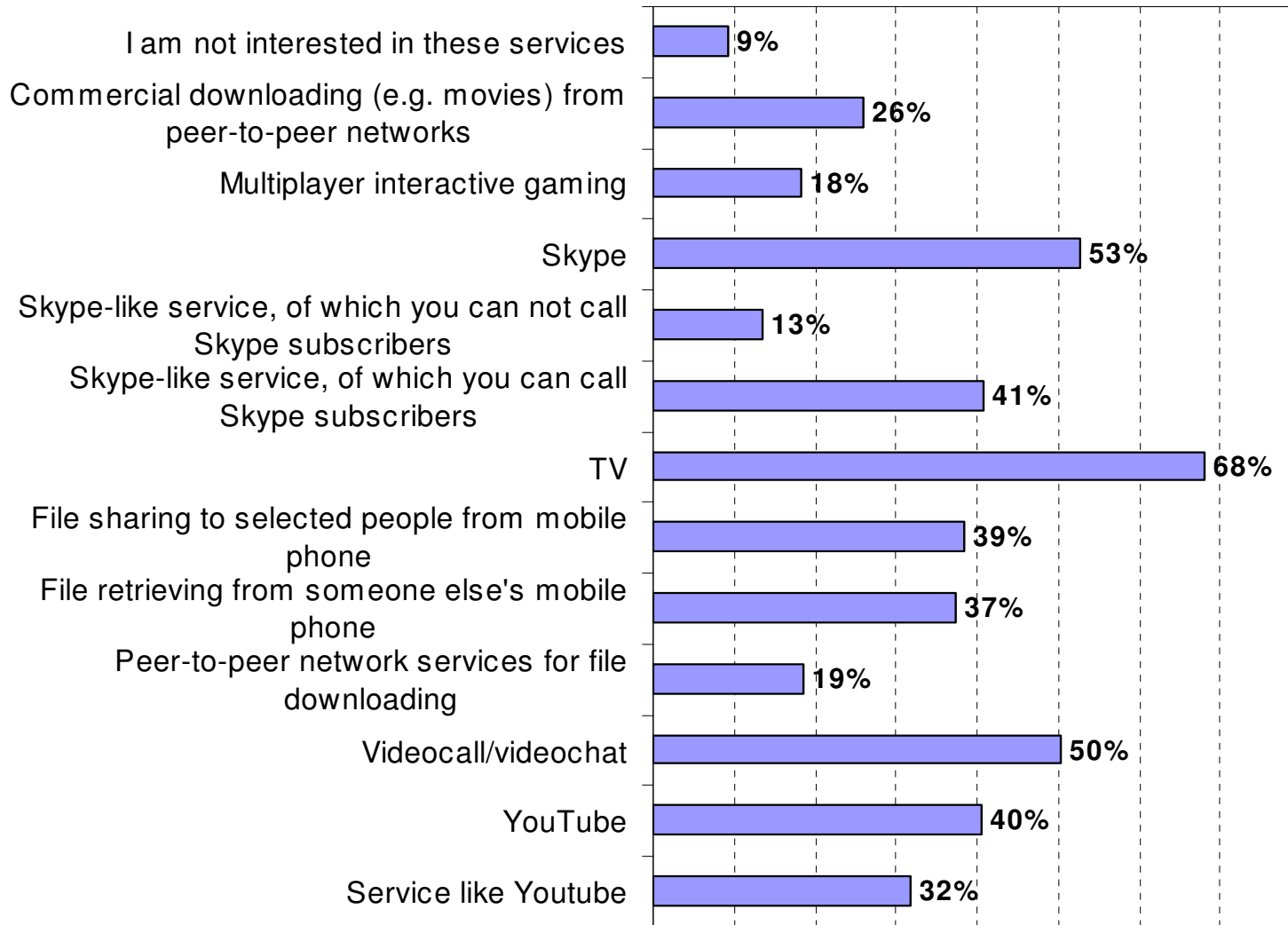
Final questionnaire - question 14
How do you use your mobile phone to watch movies/videos?



Final questionnaire - question 15
How do you use your mobile phone to listen to music?

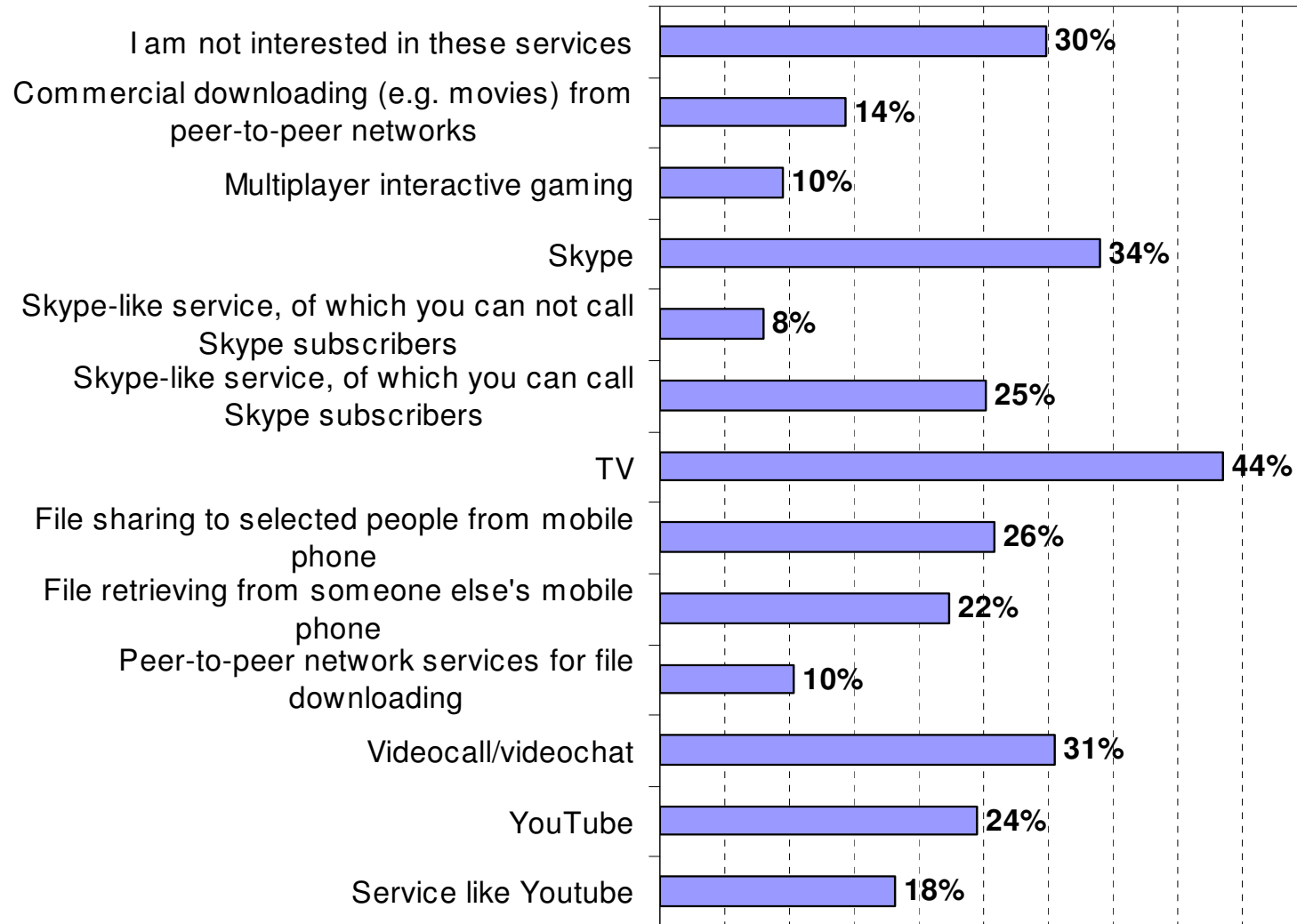


Final questionnaire - question 18
I would be interested in using following services with my mobile phone, if they were completely free of charge.

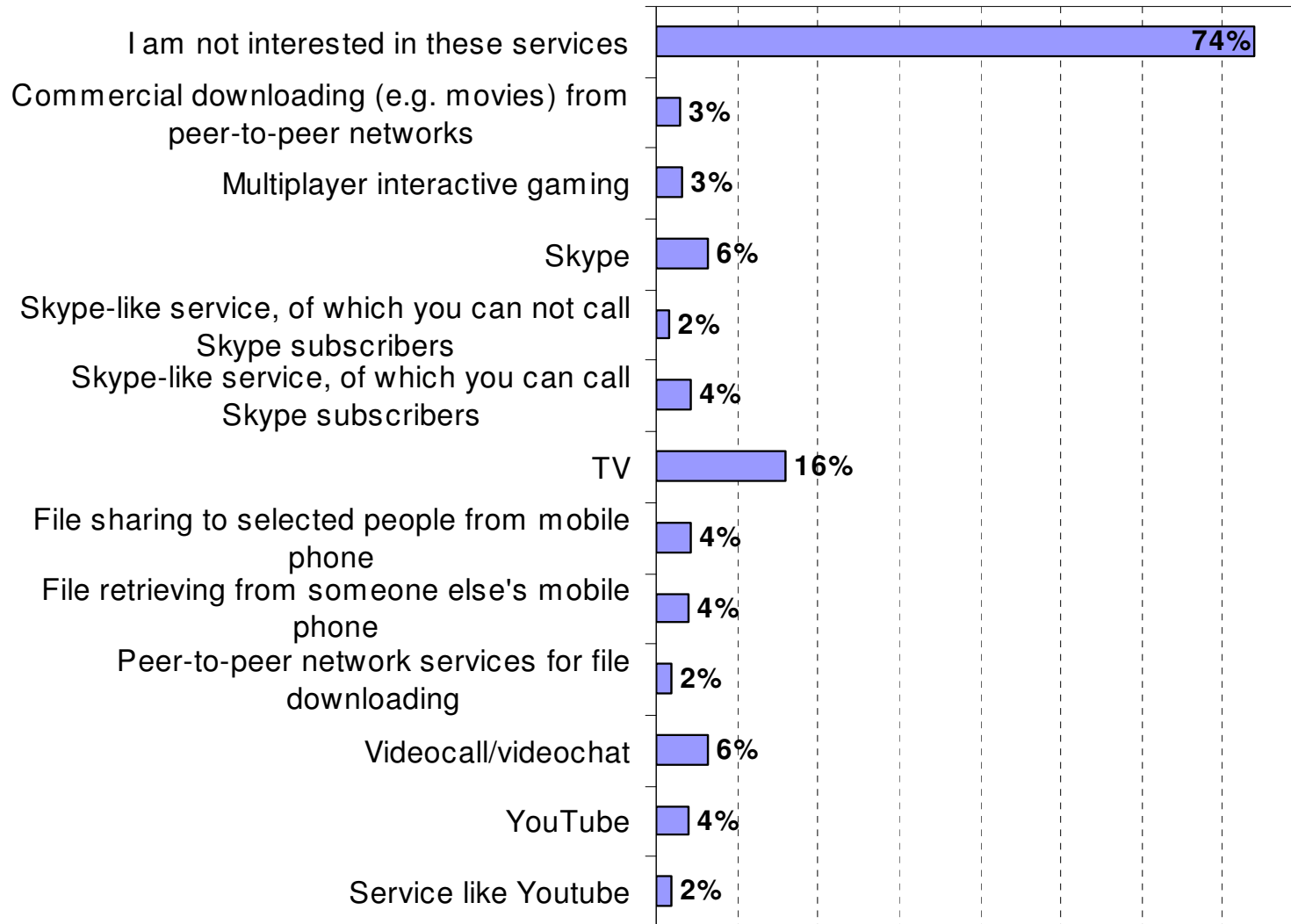


Final questionnaire - question 16

I would be interested in using following services with my mobile phone, if they were free of charge except for data traffic fees.



Final questionnaire - question 17
I would be interested in using following services with my mobile phone, if they were subject to a charge.



CONTACT



<http://www.netlab.tkk.fi/coin/>

<http://www.netlab.tkk.fi/momi/>