

Videojug Pages' 'Untapped Knowledge' Report for the UK

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September 2010

Abstract

This report details the findings of research into the volume of 'untapped knowledge' within the population of the United Kingdom. The research formula puts an estimated monetary figure on the value of 'untapped knowledge' and uses relevant regional factors to calculate separate values for all counties, regions and urban centres across the UK.

Definition of 'untapped knowledge' – knowledge that people currently have but do not use to generate a personal income from.

Research Hypothesis

'The average individual in the UK acquires a vast quantity of knowledge throughout their life but a significant amount of that knowledge is never used to generate an income. If quantified the accumulative amount of this 'untapped knowledge' would be worth billions of pounds if actively sold/leased to other people or organisations.'

The research was conducted by Professor Frank T. Smith, commissioned by Videojug Pages, part of Videojug Corp Ltd.

Research Formula

Total 'untapped knowledge' within a specified geographical area with a known population is estimated as:

$$T = 40 M i K e (3e + M) (e + 50M) / \{(e^2 + 3M e + M^2) (e + 100M)\}$$

The above formula estimates the monetary value in GBP£ (pounds sterling), per annum.

Formula Key:

- T = total value in GBP£ (pounds sterling) per year
- e = effect of following 2 regional adjustment factors
 - p = population within region
 - R = set of regional variable including industry data, education data
- M = million (10^6)
- K = thousand (10^3)
- i = income based on regional GDP per capita

Research Assumptions & Key Variable Factors

Assumptions

Research assumes that an average person has the equivalent of 1 extra person's knowledge within them that is not currently used to generate an income within typical daily living.

Traditionally the average person's day is divided into 3 parts –

1. Work – using knowledge at home or place of work (8 hours)
2. Rest - sleeping (8 hours)
3. Play – leisure & social time spent not working (8 hours).

During 'play' people typically use different knowledge from the knowledge they use during 'work'.

People don't earn an income from this 'play' period of the day. However if their 'play' knowledge was applied to activities that did earn an income then they would have the potential to double their personal income.

Essentially this 'untapped knowledge' equates to a second income if applied to activities that another person or organisation would pay for.

Based on average UK GDP per capita this equates to £25,000 per annum*

*For the purposes of this research we have used a more conservative figure for UK GDP per capita of £20,000

Key Variable factors: Regional Adjustment Factors

Formula uses a number of regional adjustment factors to estimate the value of 'untapped' knowledge within a specified region.

Local population levels, population density and regional GDP data are significant factors within the formula.

Population volume

Areas with larger populations generally have more activity taking place, giving increasing returns. Knowledge is gathered through activities, interactions and experiences and therefore highly populated areas have greater opportunity for knowledge creation leading to increased total knowledge within that area.

Population density

On an individual basis, increasing population density reduces the value of individual knowledge. As population density increases the number of knowledge-overlaps increases creating an over-

supply of all 'types of knowledge' which drives down the value. The addition of each new person into an area increases the total value of knowledge but the incremental increase is smaller with each new person – a law of diminishing returns applies.

Regional GDP

National GDP per capita is around £25,000. Regional GDP per capita varies per region across the UK and directly affects the value of knowledge within each region.

The formula assumes a direct correlation between GDP & the value of knowledge. The higher the GDP per capita within a region the greater the (monetary) value placed on knowledge within that region.

The above formula has been applied to the following countries, regions, cities and towns.

These 'areas' were selected to give broad national coverage for the research.

Table 1 – results ranked by Total Value of Untapped Knowledge

UK/Country	Total Value of Untapped Knowledge	Average Value of Untapped Knowledge Per Person
United Kingdom (full population)	£86,000,000,000 (£86bn)	£1,400 (£1.4k)
England	£83,000,000,000 (£83bn)	£1,600 (£1.6k)
Scotland	£52,000,000,000 (£52bn)	£10,000 (£10k)
Wales	£42,000,000,000 (£42bn)	£14,000 (£14k)
Northern Ireland	£31,000,000,000 (£31bn)	£18,200 (£18.2k)
Regions (England)	Total Value of Untapped Knowledge	Average Value of Untapped Knowledge Per Person
The South	£75,000,000,000 (£75bn)	£2,400 (£2.4k)
The North	£65,000,000,000 (£65bn)	£3,400 (£3.4k)
The South-East*	£56,000,000,000 (£56bn)	£7,000 (£7k)
The North-West	£50,000,000,000 (£50bn)	£7,200 (£7.2k)
East of England	£49,000,000,000 (£49bn)	£9,000 (£9k)
Yorkshire & Humberside	£48,000,000,000 (£48bn)	£9,300 (£9.3k)
West Midlands	£48,000,000,000 (£48bn)	£9,100 (£9.1k)
The South-West	£47,000,000,000 (£47bn)	£9,600 (£9.6k)
East Midlands	£45,000,000,000 (£45bn)	£10,600 (£10.6k)
The North-East	£36,000,000,000 (£36bn)	£14,500 (£14.5k)
Cities & Towns	Total Value of Untapped Knowledge	Average Value of Untapped Knowledge Per Person
London	£58,000,000,000 (£58bn)	£7,000 (£7k)
Manchester	£33,000,000,000 (£33bn)	£15,000 (£15k)
Glasgow	£24,000,000,000 (£24bn)	£20,000 (£20k)
Cardiff	£22,000,000,000 (£22bn)	£20,000 (£20k)
Edinburgh	£21,000,000,000 (£21bn)	£20,500 (£20.5k)
Birmingham	£20,000,000,000 (£20bn)	£20,000 (£20k)
Newcastle	£18,000,000,000 (£18bn)	£22,500 (£22.5k)
Nottingham	£17,000,000,000 (£17bn)	£24,600 (£24.6k)
Leeds	£16,000,000,000 (£16bn)	£20,000 (£20k)
Liverpool	£16,000,000,000 (£16bn)	£19,600 (£19.6k)
Belfast	£15,000,000,000 (£15bn)	£25,900 (£25.9k)
Sheffield	£13,000,000,000 (£13bn)	£21,700 (£21.7k)
Brighton	£12,000,000,000 (£12bn)	£24,200 (£24.2k)
Leicester	£12,000,000,000 (£12bn)	£26,100 (£26.1k)
Portsmouth	£12,000,000,000 (£12bn)	£26,100 (£26.1k)
Norwich	£10,000,000,000 (£10bn)	£26,300 (£26.3k)
Plymouth	£7,000,000,000 (£7bn)	£26,900 (£26.9k)
Oxford	£5,000,000,000 (£5bn)	£30,000 (£30k)

Table 2 – results ranked by Average Value of Untapped Knowledge Per Person

UK/Country	Average Value of Untapped Knowledge Per Person	Total Value of Untapped Knowledge
United Kingdom (full population)	£1,400 (£1.4k)	£86,000,000,000 (£86bn)
Northern Ireland	£18,200 (£18.2k)	£31,000,000,000 (£31bn)
Wales	£14,000 (£14k)	£42,000,000,000 (£42bn)
Scotland	£10,000 (£10k)	£52,000,000,000 (£52bn)
England	£1,600 (£1.6k)	£83,000,000,000 (£83bn)
Regions (England)	Average Value of Untapped Knowledge Per Person	Total Value of Untapped Knowledge
The North-East	£14,500 (£14.5k)	£36,000,000,000 (£36bn)
East Midlands	£10,600 (£10.6k)	£45,000,000,000 (£45bn)
The South-West	£9,600 (£9.6k)	£47,000,000,000 (£47bn)
Yorkshire & Humberside	£9,300 (£9.3k)	£48,000,000,000 (£48bn)
West Midlands	£9,100 (£9.1k)	£48,000,000,000 (£48bn)
East of England	£9,000 (£9k)	£49,000,000,000 (£49bn)
The North-West	£7,200 (£7.2k)	£50,000,000,000 (£50bn)
The South-East*	£7,000 (£7k)	£56,000,000,000 (£56bn)
The North	£3,400 (£3.4k)	£65,000,000,000 (£65bn)
The South	£2,400 (£2.4k)	£75,000,000,000 (£75bn)
Cities & Towns	Average Value of Untapped Knowledge Per Person	Total Value of Untapped Knowledge
Oxford	£30,000 (£30k)	£5,000,000,000 (£5bn)
Plymouth	£26,900 (£26.9k)	£7,000,000,000 (£7bn)
Norwich	£26,300 (£26.3k)	£10,000,000,000 (£10bn)
Portsmouth	£26,100 (£26.1k)	£12,000,000,000 (£12bn)
Leicester	£26,100 (£26.1k)	£12,000,000,000 (£12bn)
Belfast	£25,900 (£25.9k)	£15,000,000,000 (£15bn)
Nottingham	£24,600 (£24.6k)	£17,000,000,000 (£17bn)
Brighton	£24,200 (£24.2k)	£12,000,000,000 (£12bn)
Newcastle	£22,500 (£22.5k)	£18,000,000,000 (£18bn)
Sheffield	£21,700 (£21.7k)	£13,000,000,000 (£13bn)
Edinburgh	£20,500 (£20.5k)	£21,000,000,000 (£21bn)
Birmingham	£20,000 (£20k)	£20,000,000,000 (£20bn)
Cardiff	£20,000 (£20k)	£22,000,000,000 (£22bn)
Glasgow	£20,000 (£20k)	£24,000,000,000 (£24bn)
Leeds	£20,000 (£20k)	£16,000,000,000 (£16bn)
Liverpool	£19,600 (£19.6k)	£16,000,000,000 (£16bn)
Manchester	£15,000 (£15k)	£33,000,000,000 (£33bn)
London	£7,000 (£7k)	£58,000,000,000 (£58bn)

Conclusion

Research suggests the hypothesis to be correct. The estimated value of 'untapped knowledge' in the UK is worth £86bn

Sources of data

Multiple data sources were used and confirm the relevant input figures applied within the research. Here is a sample of those sources; a more exhaustive list can be supplied upon request.

1. Office National Statistics (ONS) - national, regional, city population data (2010)
Example: Scotland Population data <http://www.statistics.gov.uk/cci/nugget.asp?id=1136>
2. Office National Statistics (ONS) - UK & regional GDP data (2010)
Example: GDP data <http://www.statistics.gov.uk/default.asp>
3. City & Regional Council Websites -
Example: Portsmouth Population data
<http://www.portsmouth.gov.uk/yourcouncil/3817.html>