



Annex B

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Objective of the Knowledge Asset evaluation tool

- B.1 The Knowledge Asset evaluation tool comprises of a questionnaire that should help public sector organisations elicit the information required to fill out an assessment of the potential social, economic and financial value of their Knowledge Assets.
- B.2 The goal is to a) help public sector organisations better manage their Knowledge Assets by allowing them to identify potential opportunities for exploiting their Knowledge Assets; and b) to provide an indication of the potential economic, financial and social value of those opportunities. This tool should be considered as part of the triage process that allows Knowledge Assets owners in government and The Government Office for Technology Transfer (GOTT) to identify the Knowledge Assets with the most potential on which they should concentrate.
- B.3 The questionnaire and assessment should be completed by the relevant policy lead with input where appropriate from the organisation's finance team. GOTT can offer support in using this tool.
- B.4 The questionnaire, which is set out on <u>page 5</u>, should be completed to the best of the policy lead's knowledge and does not require detailed research. For some questions, doing some preliminary research may help with answering the questions but it is not essential.

Defining social, economic and financial potential

- B.5 The evaluation tool is intended to help assess the potential financial, social and economic value of a Knowledge Asset. These three types of value can be defined as:
 - financial potential: this is the potential of the Knowledge Asset to support the public finances; this could be either through revenue, including from selling or licensing an asset, or cost savings from improved efficiency
 - economic potential: this is the potential of the Knowledge Asset to benefit the wider economy, for example by creating jobs or reducing the price of goods and services for consumers
 - social potential: this is the potential of the Knowledge Asset to provide nonmonetary benefits to wider society, for example the health benefits from medical technology that enables diseases to be treated more effectively.

Knowledge Asset evaluation questionnaire

Questionnaire

Section 1: The Asset

- a) Describe the Knowledge Asset
- b) What stage of development is the Knowledge Asset in?
- c) Describe how the Knowledge Asset is currently used. How well does the Knowledge Asset carry out its intended function?
- d) Could the Knowledge Asset be improved? If so how? Is there an ongoing project to develop/maintain the asset?
- e) How much did it cost to develop the Knowledge Asset and what are the ongoing costs for maintaining the asset?
- f) How much would you be willing to pay for the Knowledge Asset if you didn't already own it?
- g) What are the IP rights underpinning this Knowledge Asset?
- h) Do you own the IP rights listed in 1g? If not, who does?
- i) If you own the rights listed in 1g, are there any restrictions on that use?
- j) If you do not own the rights listed in 1g, what are your rights of use?
- k) Are there other Knowledges Assets (not recorded in your organisation's IP rights tracker) underpinning this Knowledge Asset opportunity?
- I) Is the Knowledge Asset subject to any legislation that restricts the ability to use or exploit it, such as data that is in scope for the Re-use of Public Sector Information Regulations 2015?

Section 2: The Opportunity (optional)

- a) What is the opportunity associated with the asset, i.e. how could the asset be used?
- b) What are the views of existing users/customers on the exploitation of the asset? Would they support exploitation, what benefits would it bring to them, and what threats to their use might it pose?
- c) How could the Knowledge Assets be transferred to the market? For example, license, spin-out, sale?

Section 3: Competing Assets

- a) Are there any competing Knowledge Assets already in the market?
- b) If there are competitors, how would you differentiate this Knowledge Asset in the market? What is the unique selling point of the end product/service that the Knowledge Asset results in?
- c) Do you know whether other governments or private sector entities own or use similar Knowledge Assets?
- d) If so, what makes this Knowledge Asset different or better than similar Knowledge Assets owned by others?

Section 4: Potential Beneficiaries of this asset

- a) Have any firms or industries or other parts of the public sector expressed an interest in this Knowledge Asset?
- b) List any private sector firms/industries who you think could potentially benefit from this Knowledge Asset
- c) List any public sector organisations who you think could potentially benefit from this Knowledge Asset
- d) List any charities/third sector bodies who you think could potentially benefit from this Knowledge Asset
- e) For any private sector firms/industries listed in 4b, how large are these industries?
- f) For those identified in 3b-d, how do you think benefit from this Knowledge Asset would accrue?

Section 5: Deliverability

- a) What would be the main challenges with exploiting this Knowledge Asset?
- b) How much would it cost to develop/exploit this Knowledge Asset?
- c) Is the Knowledge Asset inventor/development team available to support the development of the asset?
- d) Are there any presentational, legal or freedom of use risks associated with the development of this Knowledge Asset?
- e) Are there any institutional barriers to developing/exploiting this Knowledge Asset (including legal and proprietary issues)?
- f) Does developing/exploiting this Knowledge Asset require the input of other government departments or Knowledge Assets?

Section 6: Other applications

- a) List any other potential applications you think this Knowledge Asset might have
- b) For each application listed in 6a repeat the questions 3b d
- c) Do any of the potential applications listed in 6a require the input of other government departments or Knowledge Assets?

Section 7: Confidentiality

What information in this checklist can be:

- a) Shared with The Government Office for Technology Transfer
 - · All
 - Some (please list which sections)
 - None
- b) Shared with other public-sector organisations
 - · All
 - · Some (please list which sections)
 - None
- c) Made publicly available
 - · All
 - Some (please list which sections)
 - None

Step 1: Answering the questionnaire

Section 1: The asset

- B.6 The first step to assessing the potential value of a Knowledge Asset is to understand what that asset is. This section is aimed at building enough understanding of the asset, and how it is used, to enable assessments and judgements on potential value to be made in the following sections. These questions are mainly qualitative with some key data points, such as cost.
- B.7 The value of Knowledge Assets can increase significantly through further development and refinement. Therefore, this section also seeks to get a sense of what stage of development the Knowledge Asset is in and whether there are any improvements that could be made which would increase the asset's value.

Section 2: The opportunity

- B.8 The value of a Knowledge Asset can vary depending on the circumstances it is being used in, and the opportunity for exploiting it.
- B.9 If you are unsure what the opportunity for exploiting the Knowledge Asset is and are using the evaluation tool to help identify one, please skip this section.
- B.10 If you already have a potential opportunity in mind for exploiting the Knowledge Asset please provide as many details of that opportunity in this section as possible, whether it's just an initial idea or a detailed plan. Completing the following sections of the questionnaire with that opportunity in mind will provide an assessment of the potential value of that opportunity (and possibly identify some additional opportunities). If you have more than one opportunity for exploiting the Knowledge Asset in mind, completing a separate questionnaire (sections 2-6) for each opportunity would provide the most reliable assessment.

Section 3: Competing assets

- B.11 This section is looking to determine whether there are any similar Knowledge Assets that already exist, and if there are what makes this Knowledge Asset different to what is already available.
- B.12 If Knowledge Assets that fulfil similar functions already exist in the private sector, this could impact the potential value of the Knowledge Asset. If the Knowledge Asset has been created as a result of, or to help fulfil, a public-sector organisations core functions, it is possible that other governments that undertake similar functions may have generated similar Knowledge Assets.
- B.13 Policy leads should indicate whether they are aware of similar Knowledge Assets in either the public sector, other governments or the private sector. Some preliminary online research may help with answering this question but is it not essential.

Section 4: Potential beneficiaries

- B.14 This section is intended to help owners of a Knowledge Asset think through who else might be interested in the asset and the potential benefits of exploiting it. This involves going through two main thought processes that will help to identify and shape possible opportunities for exploiting this asset.
- B.15 The first key thought process (question 4b-d) asks you to think through what other organisations might benefit from the Knowledge Assets as it is intended to be used. This can include other public-sector bodies; foreign governments; and private sector firms/industries both in the UK and abroad. This should be treated as brainstorming a long-list of potential organisations, and helps paint a picture of the size potential 'market' for this Knowledge Asset.

- B.16 The second main thought process, which is in question 4f, asks you to build on the first by going a step further to think through where the benefits would accrue if the organisations identified in 4b-d had access to the Knowledge Asset. This is key in assessing how the potential value of a Knowledge Assets is split between economic, financial, and social value.
- B.17 For example, transport data could generate financial value by charging a licence fee to mapping apps that profit from using it; economic value by reducing commuting time and increasing productivity; and social value by reducing congestion and emissions.

Section 5: Deliverability

B.18 Now that we have an understanding of the nature of the asset, the potential 'market' and the benefits that exploiting it could provide, this section assesses the difficulties with successfully exploiting it. This doesn't directly impact the potential value an asset could have, but deliverability is a key factor in determining which Knowledge Assets to prioritise. For example, an organisation may wish to prioritise exploiting an easy but lower value Knowledge Asset over a very valuable Knowledge Asset that it would be almost impossible to exploit.

Section 6: Other applications

- B.19 So far, we have assessed the value of a Knowledge Asset based on its intended use. However, Knowledge Assets can have applications outside of their intended purpose. This section therefore asks policy leads to brainstorm what other potential applications a Knowledge Asset might have besides its intended purpose.
- B.20 At minimum, policy leads should repeat the thought exercises in section 3 to get an indication of which organisations may benefit from the other applications and what the potential benefit of exploiting the Knowledge Asset for this new purpose may be. However, if one of the other potential applications seems particularly valuable, policy leads may wish to complete a separate assessment for this new application.

Section 7: Confidentiality

- B.21 This evaluation tool is designed to elicit the information required to assess the potential of a Knowledge Asset. However, you should also consider the sensitivity of this information. Privacy, competition rules, data protection and other factors may limit the extent to which information relevant to this questionnaire can be shared, and who it can be shared with.
- B.22 In this section, please think about the information you have provided and whether it is appropriate for it to be shared with The Government Office for Technology Transfer, other public sector organisations and made public. If only some of it can be shared, please list which sections of the questionnaire this information comes under.

Step 2: Assessing answers and identifying indicators of value

- B.23 Many of the answers to the questions in the questionnaire can provide indicators of financial, economic, and social value. For example, question 3a asks about competing Knowledge Assets in the market. If a Knowledge Asset is completely unique, and has no competitors, this is an indicator that it could create financial value. If there are already competitors in the market this would likely reduce the financial value it could generate for government. However, it could create economic value by making a market more competitive, particularly if the market is an oligopoly or monopoly.
- B.24 The following tables provide a guide to some of the answers to the questionnaire that could be indicators of different types of value. Having considered all the questions in the questionnaire, policy leads should cross reference their answers against the Knowledge Assets indicators set out in the table below. The indicators are not a comprehensive or exhaustive list and are intended to guide policy leads in assessing whether their answers in the checklist are indicators of economic, social or financial value. It is likely that when answering the questionnaire, you will have answers that are not covered by the table below. For any answers not listed within the indicators, policy leads should use their judgement to decide which category, if any, they best fit in. The rationale provided for each indicator below should provide some guidance for those judgements.

Table 1.A

Question: 1e) How much did it cost to develop the Knowledge Asset and what are the ongoing costs for maintaining the asset?							
Financial potential		Economic potential		Social potential			
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale		
Development cost	Higher development costs could be an indicator of higher potential returns.	N/A	N/A	N/A	N/A		

Question: 1f)	How much would you be willing to pay for the Knowledge Asset if
	you didn't already own it?

you didn't directly civilite.						
Financial potential		Economic potential		Social potential		
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale	
Willingness to pay	The amount you would be willing to pay to access the Knowledge Asset can be used as a proxy for the amount someone else might be willing to pay. The higher the value, the higher the possible financial return.	N/A	N/A	N/A	N/A	

Question: 3a) Are there any competing Knowledge Assets already in the market?

Financial potential		Economic potential		Social potential	
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale
Fewer competitors	If a Knowledge Asset has fewer competitors, commercialisation may be more likely to be successful.	Small number of competitors	Improving competition in a market with relatively few competitors could generate economic value.	N/A	N/A
		Large competitors	The economic benefits of increasing competition in an oligopolistic market may be greater if the incumbents are large, highly profitable firms.		

may be more likely to be successful.

Table 1.A (Continued)

Assets

Question: 3c) Do you know whether other governments own or use similar Knowledge Assets?						
Financial potential		Economic potential		Social potential		
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale	
Other governments do not have access to similar Knowledge	If other governments do not have access to a similar Knowledge Asset, commercialisation	N/A	N/A	N/A	N/A	

Question: 4a) Have any firms or industries or other parts of the public sector expressed an interest in this Knowledge Asset?							
Financial pote	ential	Economic p	otential	Social potential			
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale		
Private sector has expressed interest	Private sector likely to be willing to pay to access the Knowledge Asset	N/A	N/A	Public sector has expressed interest	Enabling wider public sector access could help deliver higher quality public services		

Question: 4b) List any private sector firms or industries who you think could potentially benefit from this Knowledge Asset?

potentially benefit from this Knowledge Asset?							
Financial potential		Economic potential		Social potential			
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale		
Small number of private sector firms/ industries	With a small number of potential users, the main value could accrue from charging them for access to the Knowledge Asset.	Large number of private sector firms/ industries	With a large number of potential users, the main value is more likely to be economic so it might be best to prioritise making access as widely available as possible	N/A	N/A		
International Markets	If a Knowledge Asset could have commercial applications outside the UK market, this could increase its financial potential.						

Question: 4c	Question: 4c) List any public-sector organisations who you think could potentially benefit from this Knowledge Asset							
Financial pot	ential	Economic _I	potential	Social potentia	al			
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale			
Other governments (sell)	If other governments would be willing to pay to use the Knowledge Assets, this could create financial value.	N/A	N/A	Other governments	Sharing Knowledge Assets with other governments could help improve international relations and build UK relationships overseas.			
				Other UK public sector organisations	Sharing the Knowledge Asset with other parts of the public sector could create social value.			
				Other parts of own organisation	Sharing the Knowledge Asset more widely across the organisation that developed it could create			

social value.

Question: 4d) List any charities/third sector bodies who you think could potentially benefit from this Knowledge Asset?

Financial potential		Economic potential		Social potential	
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale
N/A	N/A	N/A	N/A	Charities/ third sector organisations	If charities could benefit from using the Knowledge Asset, this could indicate social value.

Question: 4e) For any private sector firms/industries listed in 3b how large are these industries?

Financial	Financial potential Economic potential		ootential	Social potential	
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale
Large firms/ industries	Large companies are likely to have a greater ability to pay to access a Knowledge Asset	Small industries/ firms	Accessing the Knowledge Asset could help small firms grow to compete with larger competitors or help small industries develop.	N/A	N/A
Large private sector profit margins	Firms/ industries with high profit margins will have a greater ability to pay to access a Knowledge Asset	Large firms	There is a risk that making some Knowledge Assets available, such as data, it could entrench the position of existing firms. This could reduce competition and create negative economic value.	N/A	N/A

Question:	Question: 4f) For those identified in 3b-d how do you think benefit from this Knowledge Asset would accrue?							
Financial potential		Economic po	tential	Social potential				
Indicator	Rationale	Indicator	Rationale	Indicator Rationale				
Increased profit/ revenue	If accessing the Knowledge Asset is likely to lead to greater private sector profits, it is likely that the private sector beneficiaries will be willing and able to pay to access the Knowledge Asset.	Increased competition	If the Knowledge Asset could make a market more competitive this would create economic value as more competition could lead to lower prices and more innovation.	Improve quality of public service delivery	If the Knowledge Asset could help the public sector deliver higher quality public services, this would indicate social value.			
Reduce cost of public sector delivery	If a Knowledge Asset could reduce the cost of delivering public services, this would indicate financial value by making more public funds available for other purposes.	Increased innovation	If the Knowledge Asset could stimulate further innovation within the private sector this could help economic growth.	Improve quality products/ services	If the Knowledge Asset leads to higher quality goods and services being available to consumers, this could indicate social value.			
		Increased employment	If the Knowledge Asset could lead to more jobs being created this would be beneficial to the economy.	Improved quality of life	If the Knowledge Asset could increase quality of life, this would create social benefits.			

Question: 4f) For those identified in 3b-d how do you think benefit from this Knowledge Asset would accrue?							
Financial potential		Economic po	tential	Social potential			
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale		
		Increased real wages	If the Knowledge Asset could boost real wages, this would be beneficial to the economy.	Health benefits	If the Knowledge Asset could improve people's health this would have social benefits.		
		Lower prices	If the Knowledge Asset could help make goods/services cheaper, in a way that passes the savings onto consumers, this would be an indicator of economic potential.	National defence benefits	If the Knowledge Asset would help make the UK more secure through national security benefits, this would create social value.		
		Displace private sector activity	If the Knowledge Asset would 'crowd out' the private sector, for example by redirecting investment that would have otherwise gone to private sector innovation, this could be an indicator of negative economic potential	Security (law enforcement) benefits	If the Knowledge Asset could help reduce crime, this would create social value.		

Question: 4f) For those identified in 3b-d how do you think benefit from this Knowledge Asset would accrue?					
Financial potential		Economic potential		Social potential	
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale
		Catalyse new market	If the Knowledge Asset could help create a new market, this would be beneficial to the economy.	Environmental benefits	If the Knowledge Asset would have environmental benefits, for example helping to reduce pollution, this would create social value.
		Improve productivity	If the Knowledge Asset could help improve productivity, for example by making it possible to make a product or deliver a service quicker than before, this could benefit the wider economy.	Privacy	If exploiting the Knowledge Asset would decrease people's privacy, for example. by selling data, this could destroy social value.

Table 1.A (Continued)

Question: 4f) For those identified in 3b-d how do you think benefit from this Knowledge Asset would accrue?					
Financial potential		Economic potential		Social potential	
Indicator	Rationale	Indicator	Rationale	Indicator	Rationale
		Catalyse new market	If the Knowledge Asset could help create a new market, this would be beneficial to the economy.	Improve productivity	If the Knowledge Asset could improve productivity, for example by reducing commuting times, this could create a social value.
				Equality/ accessibility	If the Knowledge Asset could have benefits for disadvantaged groups, this could create social value.

Step 3: Overall Assessment

B.25 Based on these indicators, the policy lead should assign a score to the Knowledge Assets along four metrics: financial potential, economic potential, social potential, and deliverability. For each indicator, policy leads should keep in mind a subjective assessment of the relative scale. For example, a Knowledge Asset with many indicators of social potential but each of which is likely to have a relatively small impact could have less social potential than a Knowledge Asset with a single indicator of social value, which could have a very large impact.

Table 1.B: Impact of Knowledge Asset

Score	Financial potential	Economic potential	Social potential	Deliverability
-1	Negative – it is likely to cost more to exploit than it would generate in revenue	Negative – on balance it could cause more economic harm than benefit.	Negative – It may cause social harm.	N/A
1	Very low – few, if any, organisations would be willing or able to pay for this Knowledge Asset. Unlikely to generate revenue for government.	Very low – very few, if any, benefits to the wider economy. Benefits would largely accrue to the owners of the Knowledge Assets.	Very low – there would be very few, if any, benefits to wider society.	Very low – there are significant challenges/risks that will make this very difficult to deliver
2	Low – there may be some limited appetite from organisations to pay to access this Knowledge Asset but it is unlikely to generate significant revenue.	Low – there may be some limited, indirect benefits that filter through to the wider economy, but they are unlikely to be significant.	Low – there may be some limited, indirect benefits that filter through to wider society.	Low – there are significant challenges/risks, but they can be mitigated or overcome.
3	High – there could be demand from organisations who would be willing and able to pay a premium to access this Knowledge Asset.	High – it could create benefits for the economy as a whole or to a specific sector.	High – it could create social benefits.	High – there are relatively few challenges/risks and they can be mitigated or overcome.
4	Very high – there could be considerable demand for this Knowledge Asset and it could generate significant revenue for government.	Very high – it could create significant benefits to the wider economy or a specific sector.	Very high – it could create significant social benefits.	Very high – there are very few, if any, challenges/ risks and they can readily overcome or mitigated.

B.26 There is no single universally agreed approach to financial valuation of IP. However, there are 3 commonly used approaches which are outlined briefly in the table below.¹

Market Approach	Income Approach	Cost Approach
Determines value by looking at the price paid for similar IP in the market. Typically, two steps:	Determines value from the net present value of the asset – this involves discounting the expected future cash flow from the IP over its lifetime.	Reproduction cost approach involves determining value by establishing the cost of developing a similar asset.
(1) screening for comparable transactions and	A commonly used income method is relief from royalty.	Replacement cost involves determining value by establishing what it would take to create or purchase an asset of equal functionality or utility.
(2) adjustments for changes in valuation due to specific rationale		

Recording and sharing outputs of assessment tool

B.27 Organisations should generally look to record and share the outputs of their assessment tool. However, there will be some Knowledge Assets that are particularly sensitive (such as if they have national security applications) in which case organisations may wish to only use the assessment for internal purposes. In other cases, completed assessments should be at minimum shared with The Government Office for Technology Transfer. Policy leads should also indicate whether the information could be shared with other departments, for example those that may also benefit from a particular Knowledge Asset, or made publicly available, to attract private investment.

¹ Source: Hidden Value: A study of the UK IP Valuation Market by IPO

