Study Question

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Patentability of computer implemented inventions

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I. Current law and practice

1

Does your current law contain any statutory provisions which specifically apply only to CII?

No

Please Explain

The Singapore legislature repealed div 13(2) of the Singapore Patents Act, which is identical in wording to the UK Patents Act 1977 Section 1(2), and EPC Article 52(2) and 52(3), with effect from 1 Jan 1996. The repealed div provides a list of subject matter excluded as inventions (i.e. non-patentable), including a program for a computer as such.

2

Please briefly describe the general patentability requirements in the written statute based law of your jurisdiction which are specifically relevant for the examination of the patentability of CII.

According to Section 13 (1) of the Singapore Patents Act, a patentable **invention** is one that satisfies the criteria of **novelty, inventive-step (or non-obviousness) and industrial applicability** .

Singapore Patents Rule 19(5) provides that the specification of a patent, or patent application, should disclose the **technical field** the invention relates to, and disclose the claimed invention such that the **technical problem and solution** can be understood. Rule 19(7) further provides that the claims shall be in terms of the **technical features** of the invention.

The patentability requirements mentioned above apply to any invention including CII.

3

Under the case law or judicial or administrative practice in your jurisdiction, are there rules which specifically apply only to CII? If yes, please explain.

No

Please Explain

4 **Please briefly describe the general patentability requirements under the case law or judicial or administrative practice of your jurisdiction which are specifically relevant for the examination of the patentability of CII.**

IPOS Examination Guidelines (Section 8A Statutory requirements)

The subject matter of a patent application must be for an **invention** - with the assessment of whether the invention is patentable involving a consideration inter alia of whether the subject matter is new, involves an inventive step and is capable of industrial application.

If the claims may relate to subject matter which is not an “invention”, a separate analysis of the claimed subject matter should be undertaken to determine whether or not the claims define an “invention”. To determine whether or not the claims define an “invention”, the Examiner shall take into account the substance rather than the form of the claims in order to identify actual contribution which is made by the claimed subject matter.

In considering the actual contribution of claims directed to CIIs, Examiners shall determine the extent to which the computer (or other technical features) contributes to the invention defined in claims. For such CIIs, it must be established that said computer (or other technical features) as defined in the claims, is integral to the invention in order for the actual contribution to comprise said computer (or technical features).

For example, claims relating to a computer-implemented business method would be considered an invention if the various technical features interact with the steps of the business method (i) to a material extent; and (ii) in such a manner as to address a specific problem. No specific definition of “a material extent” is provided. However, if the technical features recited in the claims are such that they are no more than the workings of a standard operating system, in particular, the use of a generic computer or computer system to perform a pure business method, then such an interaction would not be considered to be a material extent and it is apparent that no specific problem is solved.

An objection shall be raised if the actual contribution lies **solely** in subject matter that is not an “invention”. The IPOS Examination Guidelines sets out guidance as to what subject matter are not considered inventions. Broadly speaking, these are in the following areas (see Paragraphs 8.9-8.26):

- Discoveries
- Scientific theories and mathematical methods
- Aesthetic creations: literary, dramatic, musical or artistic works
- Schemes, rules or methods for performing a mental act, playing a game or doing business,
- Presentation of information (claims to software characterised only by source code, and not by any technical features, is considered to be a presentation of information)

Case Law

A relevant case law on the patentability of CII in Singapore is the *Main-Line Corporate Holdings Ltd v United Overseas Bank Ltd and First Currency Choice Pte Ltd [2006] SGHC 233; [2007] SGCA 50* (“*UOB*”); and *Main-Line Corporate Holdings Ltd v DBS Bank Ltd [2012] SGHC 147* (“*DBS*”).

In the *UOB* appeal at [52], the patentee put forth that “… a step must have been employed to effect that automation, and it was self-evident that this had to be a new technical step.” The Singapore Court of Appeal held that the automation was a technical step and the method was an invention. There was no consideration of the extent of the technical contribution made by the hardware itself.

In the *DBS* suit, the precedential *FCC* decision by the Singapore Court of Appeal was held to be binding. The issue of the patentability of the invention was never raised or questioned by the court.

However, these cases were decided before the IPOS Examination Guidelines were issued on CII. Currently, it appears that the IPOS Examination Guidelines sets a higher threshold for the actual contribution for the CII than the present Singapore case law suggests.

5.a

Exclusion of non-patentable subject matter per se.
Do the statutory provisions, case law or judicial or administrative practice (hereinafter collectively referred to as Law / Practice) in your jurisdiction exclude any particular subject matter relating to CII from patentability per se?
In this context, "per se" means that the non-patentable subject matter is identified without any implicit or explicit examination of the contribution to the state of the art the claimed CII makes.

If yes, please answer questions 5.b-5.e, if no, please go to question 6.a

No

Please Explain

5.b

Please describe the subject matter excluded from patentability per se and explain in detail how it is identified in practice

5.c

If there is any subject matter identified in a patent claim relating to CII that is excluded from patentability per se, is it possible to overcome a rejection of the patent claim by adding other subject matter to the claim?

If yes, please answer questions 5.d-5.e, if no, please go to question 6.a

5.d

Does the "other subject matter" need to have a certain quality, e.g. does it need to be inventive?

5.e

Can you describe the areas of human endeavour the "other subject matter" needs to relate to?

6.a

Requirement of a contribution in a field of technology.

Does the examination of the patentability of CII in your jurisdiction implicitly or explicitly involve an examination of the contribution the claimed CII makes to the state of the art (such examination may be part of a general "patentability" test or part of the novelty and inventive step/non-obviousness test)?

If yes, please answer questions 6.b-6.d, if no, please go to question 7

Yes

Please Explain

As stated in the answer to question 4), to determine whether a claim directed to CII is an "invention", a separate analysis of actual contribution which is made by the claimed subject matter shall be undertaken. In considering the actual contribution, it must be established that said computer (or other technical features) as defined in the claims, is integral to the invention in order for the actual contribution to comprise said computer (or technical features).

6.b

Does this test implicitly or explicitly involve excluding contributions from areas of human endeavour which are not deemed to be sources of patentable inventions? In other words, does patentability of CII implicitly or explicitly require a contribution from areas of human endeavour which are deemed to be sources of patentable inventions (e.g. engineering, natural sciences)? If yes, please explain.

Yes

Please Explain

As mentioned in the answer to question 4), an objection shall be raised if the actual contribution lies **solely** in subject matter that is not an “invention”, for example, if the actual contribution falls within any one of the excluded subject matters listed in the IPOS Examination Guidelines at Paragraphs 8.9-8.26.

6.c

Does this test also implicitly or explicitly require that the relevant contribution the CII makes to the state of the art qualifies as inventive/non-obvious? This additional test may be integrated into the general inventive step / non-obviousness examination, or may be a stand-alone test. If yes, please explain.

Yes

Please Explain

There is no **additional** test which is integrated into the general inventive / non-obviousness examination, or as a stand-alone test. However, the relevant contribution that CII makes to the state of the art would be considered in the wider investigation of general inventive step/ non-obviousness test.

6.d

Is there an implicit or explicit consensus in your jurisdiction as to the areas of human endeavour which are accepted as sources of patentable CII? If yes, are these areas of human endeavour defined, and if so how?

No

Please Explain

There is no positive statement of the areas of human endeavour which are accepted as sources of patentable CII. The IPOS Examination Guidelines only provides consensus on areas of human endeavour which are not accepted as sources of patentable CII, in the form of a negative list of subject-matter which may not be considered inventions.

7

Does the Law / Practice in your jurisdiction contain any specific claim drafting or other formal requirements which are applicable to CII, i.e. which deviate from the Law / Practice applicable to inventions which are not CII? If yes, please explain.

No

Please Explain

8

Does the Law / Practice in your jurisdiction contain any specific requirements as to sufficiency of disclosure and/or enablement which are applicable to CII, i.e. which deviate from the Law / Practice applicable to inventions which are not CII? If yes, please explain.

No

Please Explain

9

Do courts and administrative bodies in your jurisdiction apply the Law / Practice for patentability of CII in your jurisdiction in a harmonized way? If not, please explain.

No

Please Explain

As stated in the answer to question 4, it appears that the IPOS Examination Guidelines may require a higher standard than the current judicial cases. The IPOS Examination Guidelines require a separate analysis of the actual contribution which is made by the claimed subject matter to determine whether the claimed subject matter is an “invention”, whereas the courts appear to apply the “any hardware” approach - there

was no consideration of the extent of the “technical contribution” made by the hardware itself.

II. Policy considerations and proposals for improvements of your current Law/Practice

10

Is the current Law/Practice in your jurisdiction regarding the patentability of CII considered by users of the patent system and practitioners to be understandable and workable? If not, please explain.

No

Please Explain

The current Law/Practice in Singapore provide some guidance but could be further clarified.

For example, current IPOS guidelines (see link provided at http://iposinternational.com/singapore-guidelines-for-examining-computer-implemented-inventions-ciis/) at [8.6] requires that for CIIs, it must be established that the computer (or other technical features e.g. servers, databases, user devices etc.), as defined in the claims, is integral to the invention in order for the actual contribution to comprise said computer (or technical feature). It is not entirely clear as to what degree is required to satisfy the Examiner that the computer or other technical feature is "integral" to the invention.

At [8.7] of the same guidelines, an example provided in relation to computer-implemented business methods specifies that such claims would be considered an invention if the various technical features "interact" with the steps of the business method, *inter alia*, to a "material extent" (which is an unhelpful descriptor). It is undesirable that a CII would not be considered an invention at some undefined point of the spectrum of "interaction".

11

Does the current Law/Practice in your jurisdiction regarding patentability of CII provide appropriate outcomes, in particular from an economic perspective? If not, please explain.

Yes

Please Explain

It is important to strike a balance between allowing CIIs which merit protection to be patentable, and to exclude those CIIs which may not qualify as inventive. The current Law/Practice in Singapore does recognise patentability of CII’s which merit protection and to that extent, it does attempt to provide an appropriate outcome from an economic perspective. However, there may be examples of CIIs that may not qualify as an invention, notwithstanding their respective ingenuity and commercial value, simply because they fall just short of what the Examiner may consider to be "interaction" to a "material extent".

12

In your jurisdiction, is copyright protection of CII regarded as sufficient from an economic standpoint? Please state why in either case.

No

Please Explain

CIIs are commercially valuable because of the, broadly speaking, ideas (in copyright terminology) rather than the expression of such ideas. Copyright thus does not provide sufficient protection as it is the expression of such ideas and not the ideas themselves that are protected. Patents, on the other hand, protect the invention or specifically for CIIs, the functionality of the software which copyright does not protect. Additionally, unlike patents, independent creation is not protected in copyright, and therefore may not provide sufficient protection.

13

Alternatively, is there an explicit or implicit consensus that patent protection of CII is required to ensure sufficient reward on investments made into the development of CII? If yes, please explain.

Yes

Please Explain

As Singapore patent law does permit protection of CIIs within certain limits, there is recognition that patent protection is desirable in appropriate cases. Without this, there is little incentive for innovators to develop or introduce CIIs into the jurisdiction.

14

In your jurisdiction, is there an implicit or explicit consensus that availability of patent protection should be limited to contributions from certain areas of human endeavour, excluding contributions from all other areas of human endeavour, no matter how advanced these contributions?

Yes

Please Explain

In Singapore, the explicit mentioning of the limiting of contributions from certain areas of human endeavour are as stated in the Singapore Patents Act, where the following do not satisfy the statutory requirements of being a patentable invention:

- An invention the publication or exploitation of which would be generally expected to encourage offensive, immoral or anti-social behaviour
- An invention of a method of treatment of the human or animal body by surgery or therapy or of diagnosis practised on the human or animal body

Aside from this, the Examination Guidelines published by the Intellectual Property Office of Singapore also expounds on the definition of patentable subject matter, stating that the following are not patentable:

- Discoveries
- Scientific theories and mathematical methods
- Aesthetic creations: literary, dramatic, musical or artistic works
- Schemes, rules or methods for performing a mental act, playing a game or doing business
- Presentation of information

III. Proposals for harmonisation

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Do you consider that harmonisation regarding patentability of CII is desirable?
If yes, please respond to the following questions without regard to your Group's current Law/Practice.
Even if no, please address the following questions to the extent your Group considers your Group's current Law/Practice could be improved.

Yes

Please Explain

16.a

Exclusion of non-patentable subject matter per se.
Should there be any exclusion from patentability per se of subject matter relating to CII?
In this context, "per se" means that the non-patentable subject matter has to be identified without any implicit or explicit examination of the contribution to the state of the art the claimed CII makes.

If yes, please answer questions 16.b-16.e, if no, please go to question 17.a

No

Please Explain

Examination of CIIs should be part of the usual novelty and inventive step test. CIIs' value and thus patentability lies in its

contribution over and above the state of the art.

6.b

Please describe the subject matter that should be excluded from patentability per se and explain in detail how it should be identified in practice.

6.c

If there is subject matter identified in a patent claim related to CII you consider should be excluded from patentability per se, should it possible to overcome a rejection of the patent claim by adding other subject matter to the claim?

If yes, please answer questions 16.d-16.e, if no, please go to question 17.a

6.d

Should such "other subject matter" be required to have a certain quality, e.g. should it need to be inventive? Please state why in either case.

6.e

If yes to question 16.d above, please describe the areas of human endeavour to which such "other subject matter" should relate.

7.a

Requirement of a contribution in a field of technology.
Should the examination of subject matter eligibility of CII involve an examination of the contribution the claimed CII makes to the state of the art? If not, please explain.

If yes, please answer questions 17.b-17.e, if no, please go to question 18

Yes

Please Explain

7.b

Should such examination be made under a test specific to CII, or should it be part of the usual novelty and inventive step/non-obviousness test? Please state why in either case.

No

Please state why.

As there is already an examination of subject matter eligibility by determining the actual contribution of the claimed subject matter, examination should be made under part of the usual novelty and inventive step/non-obviousness test. The contribution of non-technical and technical features may be considered as a whole.

7.c

Under this test, should patentability of CII require a contribution from areas of human endeavour which are deemed to be sources of patentable inventions (e.g. engineering, natural sciences)? In other words, should contributions from areas of human endeavour which are not deemed to be sources of patentable inventions be disregarded? If not, please explain.

If yes, please answer questions 17.d-17.e, if no, please go to question 18

7.c **Should this test also require that the relevant contribution the CII makes to the state of the art qualifies as inventive/non-obvious? This additional test may be integrated into the general inventive step / non-obviousness examination, or may be a stand-alone test. Please state why in either case.**

Yes

Please Explain

Please see our response to 6(c) above.

To clarify, there is no **additional** test which is integrated into the general inventive / non obviousness examination, or as a stand-alone test. However, the relevant contribution that CII makes to the state of the art would be considered in the wider investigation of general inventive step/ non-obviousness test.

7.e **Should there be a non-exhaustive list of areas of human endeavour which are accepted as sources of patentable CII, taking into account the ultimate purpose of patent law (protecting unforeseen, non-obvious subject matter)? If yes, please provide such a list. If not, why?**

No

Please Explain

No, as this may be a challenging task to positively list areas of human endeavour which are accepted as sources of patentable CII. A list of non-patentable subject matter has been provided. Any subject matter which is not listed shall be considered areas of human endeavour which are accepted as sources of patentable CII.

18 **Should there be any specific claim drafting or other formal requirements which are applicable to CII, i.e. which deviate from the rules or practice applicable to inventions which are not CII? Please explain why in either case.**

No

Please Explain

There is no reason to consider CII on a different standard from the usual requirements and practice.

A computer program is essentially a method (a set of instructions for the machine to execute). To artificially limit the method to a device or a specific use will not be suitable for a CII.

For example, at present a computer program need not be necessarily stored on a user device. The technology is advancing too rapidly such that a claim format suitable now may be irrelevant in a few years.

19 **Should there be any specific requirements as to sufficiency of disclosure and/or enablement which are applicable to CII, i.e. which deviate from the rules or practice applicable to inventions which are not CII? Please explain why in either case.**

No

Please Explain

There is no reason to consider CII on a different standard from the usual requirements and practice.

One of the issues arising with many CII patent opponents appears to be that the method claims are typically drafted at a high level of abstraction such that the claim scope is very broad and/or ambiguous; however, as for all patent claims, when the claim scope is broad, a greater amount of disclosure is required and a greater amount of relevant prior art may be found. When the claim scope is ambiguous, it should be an issue of clarity and not whether it is patentable subject matter. These problems are not unique to CII and should not be treated

as such.

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Please comment on any additional issues concerning patent protection of CII your Group considers relevant to this Study Question.

Please indicate which industry sector views are included in part "III. Proposals of harmonization" on this form:

Please enter the name of your nominee for Study Committee representative for this Question (see Rule 12.8, Regulations of AIPPI). Study Committee leadership is chosen from amongst the nominated Study Committee representatives. Thus, persons not nominated as a Study Committee representative cannot be in the Study Committee leadership.
Winnie Tham