An Assessment of the Impact of Pre-Issuance Submissions on the Patent Examination Process

An Interactive Qualifying Project

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Abstract

The Pre-Issuance Submissions Program was implemented by the United States Patent and Trademark Office (USPTO) in 2012 in response to the America Invents Act of 2011 (AIA) under the provision that third parties can submit prior art documents relevant to any patent application. The Program's purpose is to render the USPTO more efficient at reviewing patent applications and to increase the quality of issued patents. The goal of this project was to determine the effectiveness of the Pre-Issuance Submissions Program and develop recommendations for the USPTO on how it can be improved. Methods included analyzing prior documentation, conducting a survey and focus group of patent examiners, and interviewing USPTO employees and external people who were knowledgeable about the Program. Conclusions were made regarding both positive and negative attributes of the Program. Recommendations included improving the EFS submission interface, expanding advertisement of the Program, developing a Pre-Issuance microsite and better educational materials, and an external forum that encourages collaboration. Implementation of these recommendations will help the USPTO to become a more efficient agency.

Acknowledgements

Authorship Page

This report was written and edited with full contributions from all group members. While over time many portions of the paper changed with input from all group members, the following table lists the original primary authors and editors.

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Common Acronyms and Terms

Term/Abbreviation	Explanation
AIA	America Invents Act
AppFT	Patent Application Full Text and Image Database
eDAN	System used by Patent Examiners to look at related patent application documents
EFS	Electronic Filing System
FAOM	First Action on the Merits (first office action)
IFW	Image File Wrapper
IDS	Information Disclosure Statement
NOA	Notice of Allowance
NPL	Non-patent literature
P2P Pilot Program	Peer to Patent Pilot Program
PAIR	Patent Application Information Retrieval
POC	Point of Contact
Program	Short for "Pre-Issuance Submissions Program"
RCE	Request for Continued Examination
SPE	Supervisory Patent Examiner
USPC	United States Patent Classification system
USPTO	United States Patent and Trademark Office

Executive Summary

In the patent examination process, the search for prior art is one of the most time consuming tasks for patent examiners. As of October 2013, there were 587,637 patent applications awaiting examination, but only 7,865 examiners employed at the USPTO (USPTO, 2013t). Because of the discrepancy between backlogged applications and the number of examiners, one of the USPTO's largest priorities is to increase the efficiency of the examination process, especially when a patent examiner has just fifteen to twenty hours, on average, to spend on an individual application (Noveck, 2009).

In order to further improve efficiency within the USPTO, and in response to the America Invents Act (AIA) of 2011, the Pre-Issuance Submissions Program was implemented on September 16, 2012. This Program provided a new mechanism for third parties to submit prior art pertaining to any patent application, and in turn provided a new resource to patent examiners. From the start of the Program to October 2013, over 1,200 third party submissions have been filed with the USPTO. Since public submissions of prior art are a fairly new initiative, it is crucial to ensure the Pre-Issuance Submissions Program aids in making patent examination more efficient as well as provides a simple submission process.

The main goal of our project was to provide suggestions to the USPTO on how the Pre-Issuance Submissions Program can be improved. This goal was fulfilled through the following objectives: we determined how the Program affects the efficiency of the patent examination process; we determined how difficult the submissions interface is to use; and, we analyzed how the USPTO could increase Program participation, increase quality of submissions, and decrease the percentage of improper submissions.

These objectives were met through analyzing past documentation and statistics regarding the Program, studying a questionnaire distributed to patent examiners, interviewing USPTO

employees and individuals knowledgeable about the Program, and conducting a focus group of examiners. Prior documentation analysis displayed breakdown of submitted document types, information on Program usage, and common reasons for noncompliance. The following graph shows the most prevalent reasons for non-compliance.
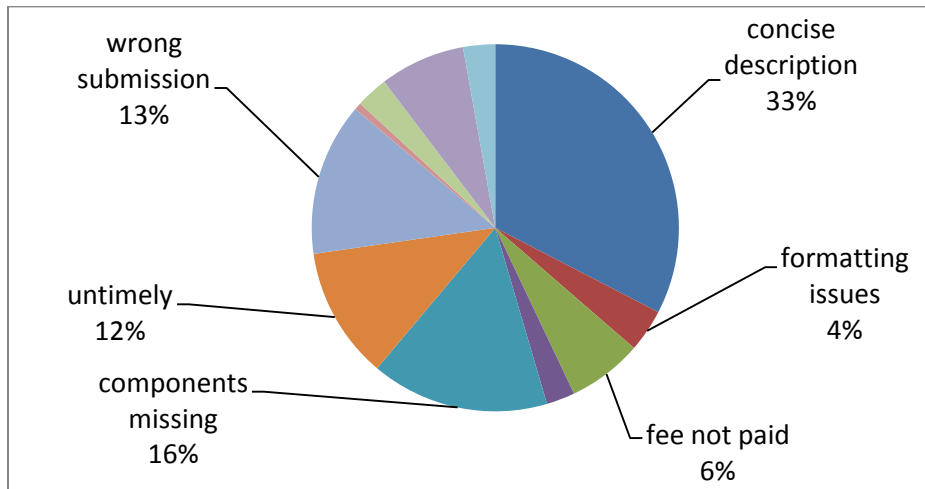
Figure Summary 1: Reasons for Improper Submissions

By analyzing survey data, we saw common trends on aspects of the Program liked by examiners and areas examiners felt were lacking. We were also able to determine relationships about how useful the submission was, how helpful the concise explanation was, and the overall opinion of the submission. The following graph is an example of how we performed cross tabulation analysis to look at these data relationships.
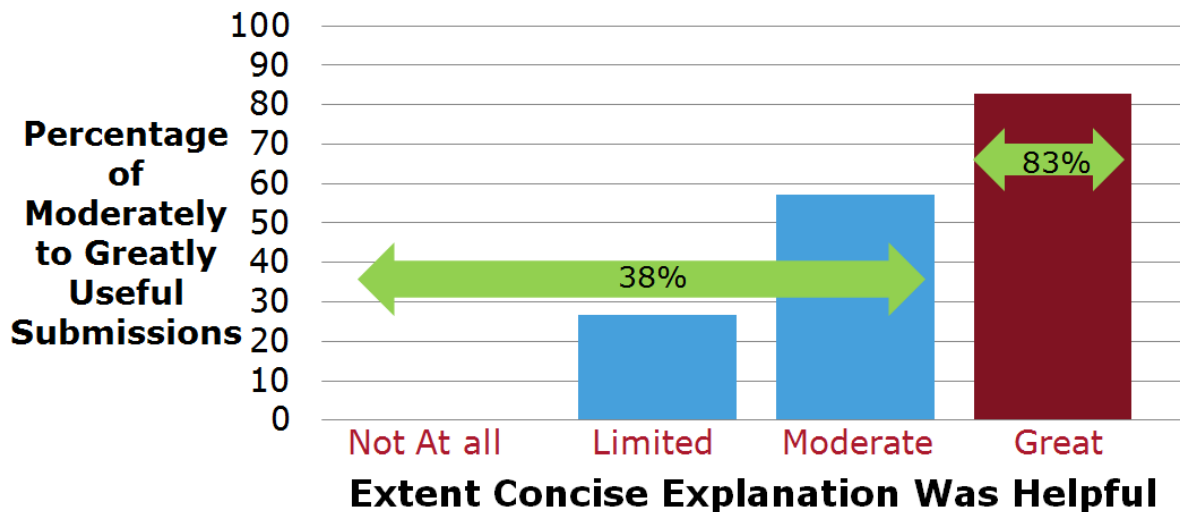
Figure Summary 2: Cross tabulation analysis for helpfulness of submission and usefulness of concise explanation

Our interviews indicated that while the Program was working well overall, some areas could be revamped, and were not running as effectively as they could be. Our focus group indicated that overall examiners are receptive to the Program, and like that the prior art submitted helps focus their own prior art search.

From our results and analysis, we arrived at a set of conclusions regarding the strengths and weaknesses of the Pre-Issuance Submissions Program. In the first year participation was four to five times higher than expected. Many of the prior art references included in submissions were non-patent literature, which supports the idea that the Program helped provide resources not necessarily available to examiners. For the examiners who had reviewed a submission thus far, general attitudes were positive about the Program, with the submission frequently helping the examiner save time during the application review process. The submission was helpful in narrowing the scope of the prior art search for the examiner, and the concise description of relevance often helped the examiner read through the references more quickly when the claims were mapped out. However, some areas needed improvement. The process of extracting

demographic information from submissions was very labor intensive, and several individuals were involved in the data collection and analysis process. Errors in reports on collected data could be skewing statistics on summaries of Program usage. We also knew that the usage rate from examiners was not as high as anticipated; as of our cutoff date, only 13% of submissions were used by an examiner in cases that resulted in an office action. Education resources available to submitters are limited, and the user interface is not the most convenient. One of the largest problems we saw was the fact that the implementation of the current Program did not encourage collaboration among experts in technological fields. The third parties also felt that there could be more transparency from the USPTO about the Program and statistics of its use.

To make the Pre-Issuance Submissions Program more efficient, we proposed the following list of recommendations:

- *Internal Processes*. The process of organizing submissions by technology center should be automated so that individual notifications are forwarded automatically to the correct personnel. Additionally, a third party tab within eDAN would be beneficial for examiners, along with a specific training session concerning third party submissions.

- *Resources and Dedicated Web Page*. Additional features should be incorporated into Public PAIR and AppFT, such as enabling applicants to test and save searches and establish RSS email feeds. We also recommend that the USPTO design a microsite specifically for Pre-Issuance Submissions, with all Program content centralized into one area of the website.

- *Advertisement*. The USPTO should make current advertisements more visible, and advertise more widely through avenues such as Facebook, Twitter, and the rotating news

banner on the website. Additionally, we suggest USPTO reach out to the university community to incorporate third party submissions in their curriculum.

- *Educational Content*. The USPTO should develop more examples of compliant and well-written concise descriptions. Additionally, examples of what USPTO accepts for evidence of publication should be provided to help potential submitters understand what is expected of them. These examples should be published on the microsite as reference materials for submitters.

- *User-Friendly Submission Interface.* Aspects of the EFS submission interface should be improved. For instance, the tab where the users enter data about each document submitted, and the tab where submitters upload supporting documents should be combined in order to increase efficiency.

- *Collaboration Tools*. The advantage of the P2P Program was the demonstration that the ability to collaborate among technical experts to identify and explain prior art significantly enhances the patent examination process. We therefore recommend that the USPTO should develop a forum or tool for third party collaboration, with similar capabilities as the tool used in P2P.

- *Transparency*. The USPTO should be more transparent regarding published data on Program usage. If the community knows how people are currently using the Program, then the public will have a better capacity for understanding what aspects of the Program are working well and what can be improved.

- *Funding and Resources.* We suggest that USPTO re-evaluates the funding allocated specifically to this Program. With more resources available, more improvements to areas such as the EFS interface could be made.

- *Our PTO Examiner Survey*. We suggest distributing and analyzing the results of our survey to gain more in-depth knowledge of examiners' opinions.

By improving education and functioning of the Program, this could be a resource to help the USPTO decrease its backlog of applications. With more resources available to examiners, they can spend less time on the prior art search, which can help reduce the overall examination time. If applications can be reviewed sooner, the products in the patent applications will hit markets more quickly, improving the US economy and thus benefiting American society.

Introduction

The United States Patent and Trademark Office (USPTO) (2013s) was created to help inventors bring their inventions to market while protecting their ideas, in an effort to promote technological advancement. The USPTO helps these inventions become realities by handling the application process that ensures that patentable inventions are useful and unique. Each year there is a significant number of patent applications submitted to USPTO; for instance, in 2012, there were 576,763 applications submitted to the agency (USPTO, 2013r). Because of this large number, applicants wait upward of three years (and in certain fields closer to five years) to receive their first notice from the Patent Office – and that is usually just the beginning of a series of steps before the patent is finally granted or rejected (Noveck, 2009, p.5). Since the USPTO is the only authority for ensuring rightful intellectual property ownership, it is critical for a patent application to be reviewed in a timely fashion. The USPTO (2013d) has implemented innovations such as the Electronic Filing System (EFS), which is a web-based system for most of the documents that come through the patent office. Although EFS has streamlined the patent application process, there are still areas that need improvement.

Traditionally, it is the patent examiner's job to search for prior art that pertains to the patent being examined. The examiner's primary resources are USPTO databases, which contain issued patents, patent applications, and foreign patents (Noveck, 2009). Unfortunately, the search for prior art is one of the most time consuming aspects of the patent examination process. As of November 2013, there were over 590,000 patent applications that were awaiting a first office action approval by an examiner, but only 8,033 examiners employed at the USPTO (USPTO, 2013t). Because of the large discrepancy between backlogged applications and the number of examiners, one of the USPTO's largest priorities is to increase efficiency of the examination

process, especially when a patent examiner has just fifteen to twenty hours, on average, to research the prior art and write up his/her findings (Noveck, 2009).

The USPTO has implemented many pilot Programs to improve efficiency and general operations within the agency. Some pilot Programs included the Teleworking Program, Accelerated Examination Program, and Pre-Appeal Conference Program (Lioselle, Lynch, and Sherrerd, 2010). Specifically, the Peer to Patent (P2P) Pilot Program was implemented in order to improve patent quality and efficiency of the examination process by allowing the public to review patent applications and submit prior art, thus allowing the patent examiner to have better resources available to him/her. By allowing the public to submit prior art, there is a supply of information available to the patent examiner that may not have been available or easy to find in traditional USPTO prior art searches, especially non-patent literature (NPL). A previous WPI Project Group analyzed and evaluated the results of the P2P Program and although the WPI Group saw room for improvement, the results of the P2P Program were generally positive. In 2011 the America Invents Act (AIA) was passed and included a provision that provided a new mechanism for third parties to submit prior art pertaining to any patent application. In response to this provision and in the hope of further improving efficiency, the Pre-Issuance Submissions Program was fully implemented on September 16, 2012 (USPTO, 2012a).

From the start of the Pre-Issuance Submissions Program until now, over 1200 submissions have been filed with the USPTO (Internal Communication, 2013). Although extensive research on the P2P Program has been previously conducted, the much larger Pre-Issuance Submissions Program has not been adequately analyzed. Since public submissions of prior art are a relatively new initiative, it is crucial to make sure Programs such as the Pre-

Issuance Submissions Program actually aid in the efficiency of the examination process and provide an easy to understand submission process for members of the public.

The main goal of our project was to provide suggestions about how the Pre-Issuance Submissions Program can be improved. We fulfilled this goal by determining how the Program affected both the efficiency of the patent examination process and the ease of use of the public prior art submission process. We analyzed a survey given to examiners, and interviewed both USPTO employees involved in the Program and third parties knowledgeable about the Program. We also conducted a focus group with examiners who had reviewed patent applications with a third party submission. We analyzed prior documentation that contained information on all third party submissions made. The results of our research helped us to formulate a list of recommendations for the USPTO concerning the Pre-Issuance Submissions Program. Efficiency and public opinion of the Program were important aspects to consider because a more efficient examination process and an easy to understand interface for public submission will help the USPTO become a stronger and more effective agency.

2.0 Background and Literature Review

Although the USPTO is specifically interested in the effectiveness of the Pre-Issuance Submissions Program, it was important to gain an understanding of the broad scope of the problem through background research. This chapter gives an overview of the background research conducted, which includes that on the USPTO as an agency, the patent examination process, the Peer to Patent Pilot Program, and the recently implemented Pre-Issuance Submissions Program.

2.1 United States Patent and Trademark Office

The USPTO is an organization established in America following the Revolutionary War during the writing of the Constitution (Jones, 1971, p.4). Many changes have led to the organization's current status as an agency, with thousands of employees working with inventors.

2.1.1 History of USPTO

The basis of USPTO dates back to Elizabethan England, when *literae patentes* were granted to encourage business and as gifts to royal favorites (Jones, 1971, p. 3). The basis for an inventor benefiting from his invention began in 1790 when George Washington signed the Patent Act on April 10 of that year. Patents were approved by a board through the examination system (Jones, 1971, p. 5). By 1793, applications were not reviewed under examination, and competing inventors were left to settle disputes privately. The system was amended in 1836 when examination procedures were re-implemented through the establishment of a new review system, which was the basis for the current examination system. Today the USPTO is one of twelve bureaus under the United States Department of Commerce (The United States Department of Commerce, 2013). In October 2010, the USPTO underwent a structural reorganization to increase efficiency (USPTO, 2011a).

2.1.2 Employee Structure at USPTO

At the end of the 2012 fiscal year, there were almost twelve thousand employees at USPTO. The division of employees between the Patent Business Line and the Trademark Business Line of USPTO are depicted in Figure 2.1.2 (USPTO, 2013e).
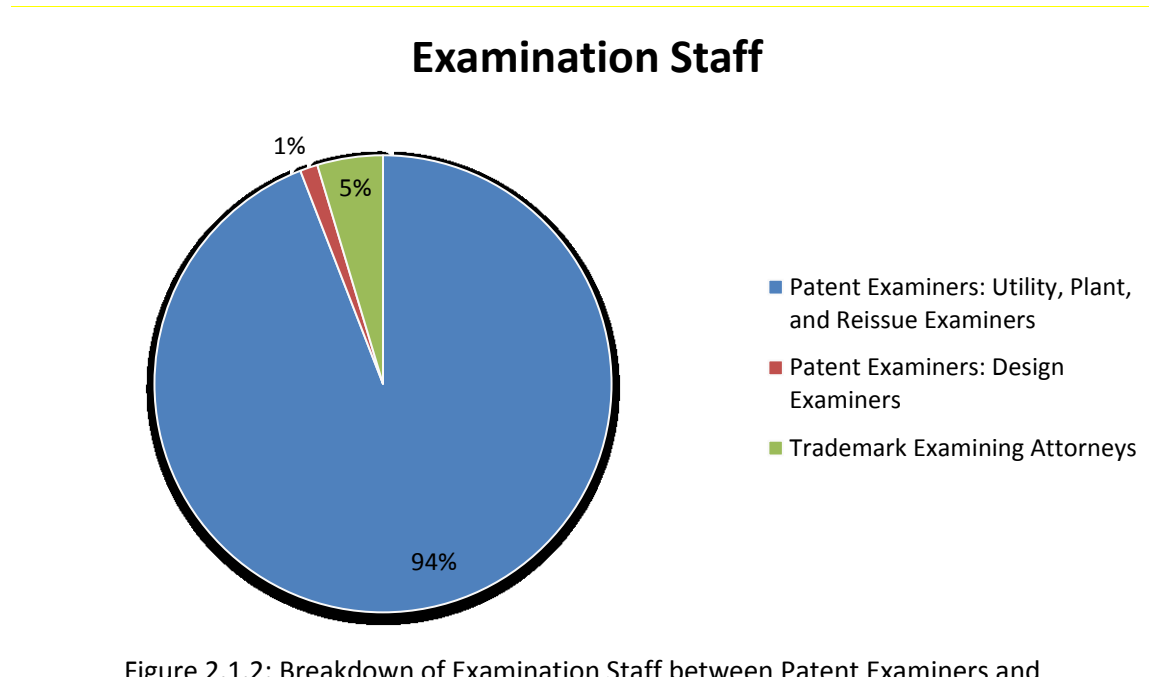
Examination Staff

Figure 2.1.2: Breakdown of Examination Staff between Patent Examiners and Trademark Examiner Attorneys (USPTO, 2013e)

The Patent portion of USPTO is comprised of a larger number of staff than the Trademark Examination portion. Of the total USPTO staff, ninety-two percent work for the Patent Examination section. Ninety-five percent of the total examination staff is Patent Examiners.

2.2 Patent Examination Process

The patent prosecution process involves several steps, starting with the submitter drafting a patent application and filing it, followed by examination of the patent, and amending and appealing it, if necessary. It takes around one to three years to complete these steps (WIPO,

2013). This complicated and time-consuming process, of which the USPTO's Electronic Filing System (EFS) is one component, is described below.

The first step in receiving a patent according to Messinger et al., (2003) is drafting a patent application. The most important thing and the basis for the draft is that the invention in question is found to be an innovation of value, something unique that will improve society. This can be determined by having third parties such as intellectual property attorneys or business associates look at the invention, or through the inventor through his/her own judgment and research. In either case, if someone decides to draft a patent application, a description of the invention and what its function must be prepared, as well as a diagram of the invention. Sometimes a patent lawyer writes up the draft. All involved with the invention are consulted, and when everyone comes to agreement the final draft is filed either by mail, fax, or electronically.

2.2.1 Patent Classification

The United States Patent Classification system (USPC) organizes all the patents that have been issued in the United States (USPTO, 2005). Its purpose is to assist patent examiners in their research (i.e. when they are checking patent applications for originality), and help other people involved in the patent process such as patent attorneys and inventors.

The USPC involves organizing patents into classes based on the invention type and function (USPTO, 2012k). More information about patents, including definitions of patent types, can be found in Appendix C. The classes are assigned based on the claims of originality written in the patent, which describe the invention. Each patent is first put into a main class called Original Classification and can be further placed under other categories called Cross-Reference Classifications. There are also different sub-classes under which patents can be further categorized. All documents that come through the USPTO are classified, and these documents

have their own set of classes separate from patents into which they can fall. This includes some documents that are related to patents, such a Pre-Grant Publications.

2.2.2 Examination Process

Upon filing, patent applications are given a number and an Official Filing receipt (USPTO, 2012k). The inventor can submit Information Disclosure Statements (IDS), which lists the prior art the inventor is aware of and is required to disclose to USPTO. The examiner then looks at the claims in the application and conducts a prior art search to ensure the claims associated in the application are different from claims of previously issued patents. After this search the examiner either issues a Notice of Allowance (NOA) which signifies that the application has survived the opposition period and a patent may be issued. If some of the claims are rejected based on the prior art search, the examiner issues a First Office Action (FAOM). An Office Action is a non-final rejection of an application. The inventor can then review the rejected claims and contest the rejections in a reply to the examiner. The inventor can make amendments to the claims in order to move the application forward. An interview with the examiner may be included in the adjudication. After amendments are made to the claims the application is once again reviewed by the examiner in the same manner as it was before the FAOM was issued. At this stage, if the examiner does not issue a NOA, he will issue a Second Office Action. The inventor can take the same steps he or she did with the FAOM to keep the application open.

After a Second Office Action has been issued, the examiner, upon re-review, issues either a NOA or a Final Office Action (USPTO, 2012k). A Final Office Action is a final rejection and examination of an application is usually terminated at this point. In both of these cases a Request for Continued Examination (RCE) is required to re-open examination of an application. If a satisfactory outcome is not reached after an RCE is filed, there is an appeals process, discussed

below. If a NOA is issued, the inventor must pay a fee and the patent pending documents are finalized, and then the patent is published. An overview of this process is shown below in Figure 2.2.1.
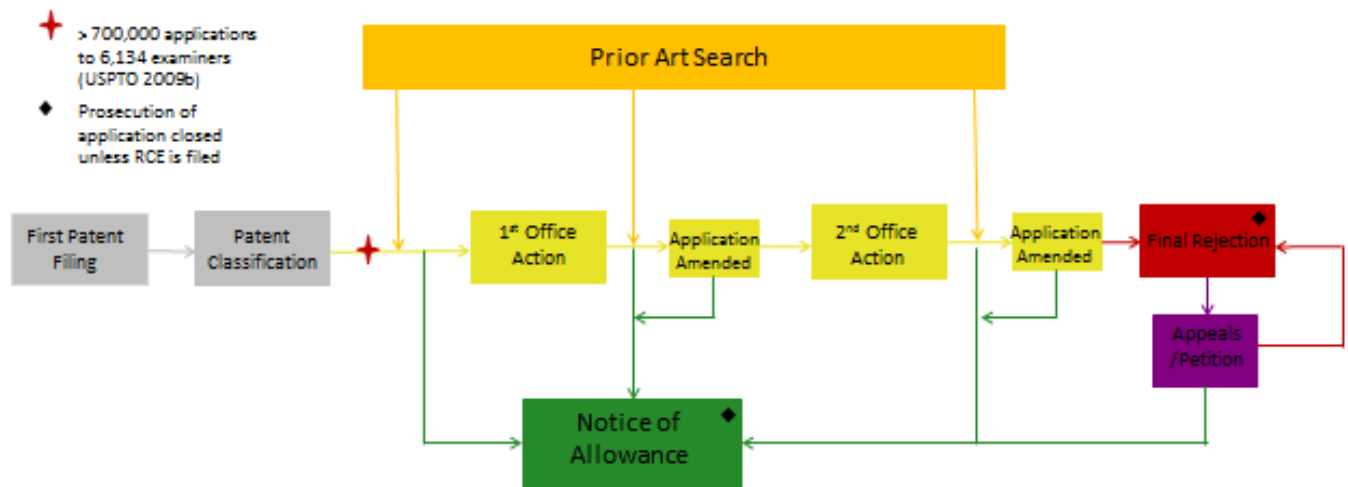
Figure 2.2.1: Diagram of Patent Examination Process

This diagram shows the flow of the filing patent through the final steps to a notice of allowance or a final rejection. The two gray boxes indicate the first two steps the application undergoes so that it may be sent to an examiner. All of the colored boxes represent steps that might be taken by the examiner.

2.2.3 Appealing Decision of the Patent Examiner

In the patent application process either an individual who submits a patent application that is then rejected during examination, or a patent owner who claims that a patent application is not original (i.e. in violation of his or her own patent) may file a notice of appeal (USPTO, 2012k). A third party may also make an appeal. Following a judicial procedure, those involved in the appeal appear before the Board of Patent Appeals and Interferences at the Court of Customs and Patent Appeals, or before the Court of Appeals of the District of Columbia (Admur,

1941). Applications can be amended before or after the appeals trial. This process only has a twenty to sixty percent success rate, and the better option is to meet with the patent examiner and discuss their decision (Amador et. al, 2011). After an appeals process the patent is either issued or finally rejected.

2.2.4 Petitions and Amendments

A petition is an alternative to an appeal and also questions the decision of the examiner (USPTO, 2013i). It is a written request that contains the sections of the patent to be reexamined. Petitions can also be filed with the USPTO through the EFS. Amendments can be made to an application during this process (USPTO, 2012b).

2.2.5 Search for Prior Art

Since originality is the most pivotal aspect in a patent application, the prior art search is important because it confirms the patent's originality. Searches are conducted when a patent application is initially submitted and during re-review processes like appeals. In a prior art search typically the patent examiner will look through an electronic database for patents that have claims similar to the claims stated in the application (University of Texas, 2013). More specifically the examiner searches for previously patented inventions that have a similar function or structure to the invention in question. The examiner does this by entering keywords pertaining to the invention in question and then checking for similar inventions in the search results. If a patented invention seems similar to the invention in the application, the examiner also looks at the patented invention's classifications and compares them with those of the pending invention.

2.3 Peer to Patent Pilot Program

It is traditionally the patent examiner's job to search for prior art that pertains to the patent application being examined. Unfortunately, the search for prior art is one of the most time

consuming aspects of the patent examination process. In November 2013 there were over 590,000 patent applications awaiting a first action by an examiner, with only 8,033 examiners employed at the USPTO (USPTO, 2013t).

One of the USPTO's largest priorities is to increase the efficiency of the examination process, especially when a patent examiner has just fifteen to twenty hours, on average, to search for prior art pertaining to the patent application (Noveck, 2009). As a result, the USPTO has implemented a number of pilot Programs to improve efficiency and quality, including the Peer to Patent (P2P) Pilot Program (Loiselle, Lynch, and Sherrerd, 2010). The P2P Program, developed by Beth Noveck, a professor at the New York Law School, was implemented in 2007. The P2P Program was introduced in order to improve patent quality by allowing the public to review patent applications and submit prior art, thus allowing patent examiners to have better resources available to them. Additionally, the information sent to the patent examiner through third parties may not be available or easy to find in traditional USPTO prior art searches, especially non-patent literature (NPL).

A previous WPI Project Group (Loiselle, Lynch, and Sherrerd, 2010) carried out research on the P2P Pilot Program. Their goal was to analyze and evaluate the results of the Program and make any necessary suggestions. To evaluate the Program in a proper way, the team received opinions from supervisors of the pilot Program and participants, and reviewed quantitative and qualitative data on the efficiency, quality, effectiveness, and inter-office processes involved. The team used these results to form recommendations for the USPTO on how the Program should continue.

From their analysis, the WPI team concluded that the internal P2P process at the USPTO required some changes. The P2P Program procedure was inefficient and had unnecessary steps

between patent examiners and supervisory patent examiners (Loiselle, Lynch, and Sherrerd, 2010). The team suggested the elimination of multiple steps between the patent examiner and the supervisory patent examiner, and the need to create an electronic filing system for P2P submissions to prevent the loss of P2P forms. For prior art that exceeded 35 pages in length, the WPI team suggested that the website should require annotations to indicate where in the document the most relevant prior art was located. The WPI team also concluded that there were problems with the P2P website, and that it was overall unorganized. While there were tutorials and links available on the website, peer reviewers had trouble making good use of the tools provided. The suggestions made in the previous WPI project guided our research, because we could determine if similar problem areas existed within the Pre-Issuance Program.

Even though the 2010 WPI Team saw room for improvement, the results of the P2P Program were generally positive. More than 600 items of prior art were submitted for 189 applications, and more than 2,700 registered peer reviewers from over 140 countries participated in the first P2P Program (Quinn, 2010). In a survey of USPTO patent examiners with a P2P application, 73 percent of those who responded said they thought the Program would be helpful if implemented into regular office practice.

2.4 America Invents Act

On September 16, 2011, US President Barack Obama signed into law the Leahy-Smith America Invents Act (AIA). The new law represented eight years of efforts by Congress to make a new bill that would make the most significant reforms to the US patent law system in 60 years (USPTO, 2013f). Some of the key provisions of the AIA included transitioning the US to a first-to-file system in which patent disputes are based on the first person to file the patent application, and a 75% discount on patent fees to all applicants that qualify as micro-entities.

One of the provisions in Section 8 of the AIA is of direct relevance to our project. The provision amends the patent laws to provide a mechanism for third parties to submit any patents, published patent applications, or other printed publications potentially relevant to a patent application, for consideration in the application's review (USPTO, 2012a).

2.5 Pre-Issuance Submissions

The Pre-Issuance Submissions Program was fully implemented and took effect on September 16, 2012, and applied to any patent application filed before, on, or after that date (USPTO, 2012m). This Program allows third parties to submit prior art to patent examiners for any given examination. A press release outlined the goals that the USPTO had for this Program, among which was allowing the USPTO to tap directly into the US innovation community through third party submissions. Under Secretary of Commerce for Intellectual Property and Director of the USPTO David Kappos stated that:

> By introducing third party input into the examination process for the first time since the inception of our nation's intellectual property system, we're able to expand the scope of access to prior art in key areas like software patents. This will improve the examination process and advance the Administration's ongoing commitment to transparency and open government. [1]

Through the Pre-Issuance Submissions Program, public submissions of prior art provide a fuller scope of materials for examiners to review when considering a new patent application.

2.5.1 Pre-Issuance Process

The following section contains information on the process of submitting prior art pertaining to a patent application. A pre-issuance submission must be timely filed and contain:

(1) A list identifying the items being submitted;
(2) a concise description of the relevance of each item listed;

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[1] USPTO, 2012m.

(3) a legible copy of each non-US patent document listed;
(4) an English language translation of any non-English language item listed;
(5) a statement by the party making the submission that the submission complies with the statute and the rule;
(6) and the required fee.[2]

Any items that are submitted as part of a pre-issuance submission must be accompanied by a concise description of the asserted relevance of each item that is identified in the submission (Drake, 2013). A concise description of relevance should set forth facts explaining how a particular printed publication is relevant to the patent application being examined. This is done effectively by pointing out relevant pages of the respective publication, or by providing a focused description of the cited text in order to draw the examiner's attention to those details. The most likely reason for a pre-issuance submission to be found non-compliant with the statutory requirements relates to the concise description requirement.

When a public member submits prior art, the third-party pre-issuance submission must be made during the following time points:

before the earlier of: (a) The date a notice of allowance under 35 USC. 151 is given or mailed in the application; or (b) the later of (i) six months after the date on which the application is first published under 35 USC. 122 by the Office, or (ii) the date of the first rejection under 35 USC. 132 of any claim by the examiner during the examination of the application.[3]

In simpler terms, the person who submitted prior art should first check the Public Patent Application Retrieval (PAIR) system to determine if a NOA has been issued in the application. If the NOA has been issued, then the third party cannot file a pre-issuance submission. If the NOA has not been issued, the third party can submit according to certain guidelines. They may file as long as the application has not been published for longer than six months, or if the first rejection

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[2] USPTO, 2012a.
[3] USPTO, 2012a.

has not been issued after six months of publication (USPTO, 2013a). Third-party submissions, whether submitted in paper or electronically via the dedicated Web-based interface, will not be automatically entered into the electronic image file wrapper (IFW) of an application. Instead, third-party submissions will be reviewed by the Office to determine compliance before being entered into the IFW (USPTO, 2012a).

Each submission has to fulfill certain requirements. Submissions that meet the requirements are deemed "proper" and are thus seen by the patent examiner (USPTO, Internal Communication, 2013). Submissions that do not meet these requirements are deemed "improper" by the USPTO and are returned to the submitter. If a submission is improper, a third party cannot simply fix the errors made in the submission; third parties have to treat the revised submission as a completely new submission and have to repay any necessary fees.

Some common reasons for improper submissions are:

- submitting at an incorrect time,

- including documents that do not qualify as publications,

- not providing evidence of publication through affidavits or declarations,

- including arguments against patentability,

- providing bare statements in the concise description,

- having no signature or writing "anonymous",

- not paying the necessary fee,

- or having someone other than a third party (i.e., the actual patent applicant) submit a third party application by mistake.

2.5.2 Public Involvement and Awareness

Any member of the public can file a third-party submission, including private persons and corporations. However, the third party may not be the applicant or any individual who has a duty to disclose information with respect to the application (USPTO, 2013a). Third parties can submit applications anonymously, as long as another individual signs the application; third party submissions cannot be signed "anonymous". This may be advantageous for third party competitors because they do not have to reveal their interest to either the USPTO or the original patent applicant (Drake, 2013). Third party submissions can include patents, published patent applications, or any printed publications of potential relevance to the patent application being considered.

Third parties may file a submission for any of the three main types of patents, which include non-provisional utility, design, or plant applications (USPTO, 2013a). However, submissions cannot be filed in any issued patent, reissue application, or reexamination proceeding. A third party must submit a required fee of $180 for every ten documents or fractions thereof listed in the submission. However, they are exempt from paying a fee if the submission has three or fewer documents, provided it is the party's first such submission and the party files a "first and only" statement.

Figure 2.5.1 shows the number of pre-issuance submissions made each month from a time span of September of 2012 until September 27, 2013. There were 1,000 pre-issuance submissions made during this time span (USPTO, 2013b).

Preissuance Submission
Cumulative as of 9/27/2013 = 1000
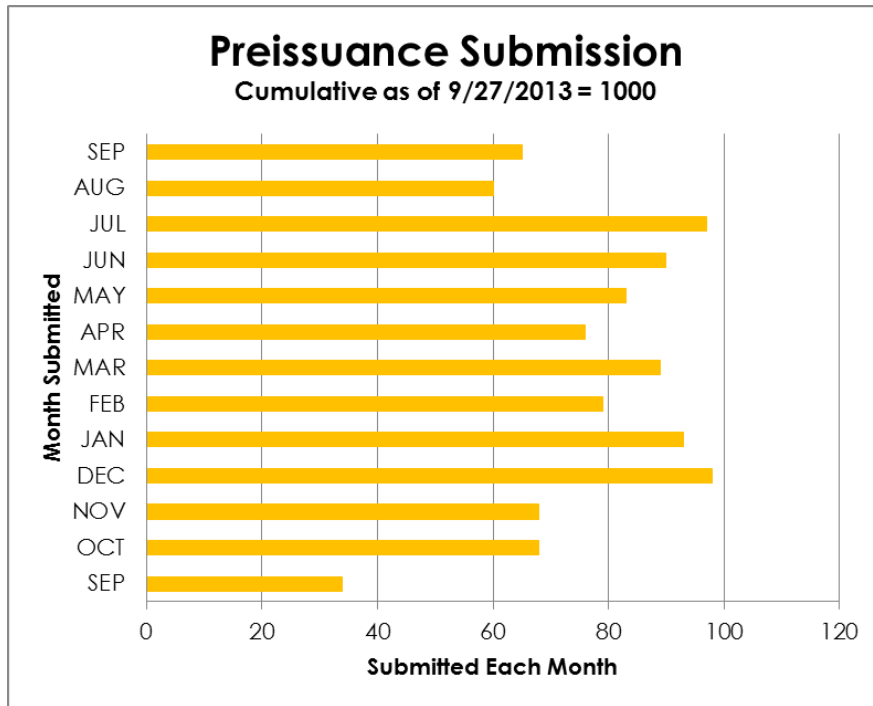
Figure 2.5.1: Pre-Issuance Submissions from Sep. 2012 to Sep. 2013 (USPTO, 2013b, AIA Statistics)

Since public submissions of prior art is a relatively new initiative, the USPTO wants to ensure Programs such as the Pre-Issuance Submissions Program actually aid in the efficiency of the examination process and provide an easy-to-understand submission process.

2.6 Summary

The USPTO implementation of pre-issuance prior art submissions into the patent process is an attempt to reduce the time to complete prior art searches and give the examiner more resources, thus decreasing the backlog of patent applications that currently exists. Yet to date, the USPTO has not extensively evaluated aspects of the Pre-Issuance Submissions Program, including its effect on examiners, the submission process and interface, and current advertising.

3.0 Methodology

The goal of this project was to provide recommendations to the USPTO about how the Pre-Issuance Submissions Program could be improved. We fulfilled this goal by reviewing both the efficiency of the patent examination process and the ease of use of prior art submissions for third parties who have participated in the Program. We utilized interviews, surveys, a focus group, and content analysis of prior documentation to obtain information for both quantitative and qualitative analysis. We also made a mock pre-issuance submission to gain first-hand knowledge of the EFS system.

Protocols of interviews, surveys, and the focus group are available in the Appendices. Appendix D has prior documentation information, survey templates are in Appendix E, Appendix G contains interview protocols, and the focus group protocol is located in Appendix I.

3.1 Prior Documentation of Patent Applications with Third Party Submissions

To determine the effectiveness of third party submissions, we performed a quantitative analysis on all the raw data that was provided to us by USPTO. We reviewed the 1,204 third party submissions made, as well as 253 patent applications that had both third party submissions and a mailed Office Action. All of the third party prior art that we analyzed was submitted from the start of the Program on September 16, 2012 until October 25, 2013.

We first looked at both the number of third party submissions and the total number of prior art references submitted, and also determined the average number of references per submission. The next step was to analyze the breakdown of types of prior art references submitted. We found the percentage of third party prior art that was NPL, domestic patents, foreign patents, and Pre-Grant Publications for all submissions. We repeated this step for proper prior art submissions. This helped us judge the extent to which third party submissions identified

prior art normally not found by the examiner. A patent examiner should find all relevant patent literature with USPTO databases. Non-patent literature that was not available to the examiner through his/her traditional research tools may have been located by the third party.

We looked at how many third party submissions were made each month to gauge the popularity of the Program. We then looked at how the percentage of improper submissions changed as time progressed. By viewing trends in the percentage of improper submissions, we judged whether compliance with submission guidelines was a major problem. If the percentage of improper submissions was significant and stayed constant, we knew that this issue would need to be addressed.

We also analyzed the common reasons why submissions were deemed improper. Upon arrival at the USPTO, we were given access to a master excel sheet containing data about the EFS Web submission number, the patent application number that the submission was made to, a time stamp, art unit and technology center, the submission status, a breakdown of documents the submissions contained, and a comment on why some submissions were improper. From this excel sheet, we decided to assign each comment to a certain category. The categories were first agreed upon by the whole team. After individual lists of categories were created, we found that we disagreed on which category should be assigned to some of the comments. We then consolidated our lists, and came to an agreement on a final list of which comments belonged in which categories.

It was also important to analyze the quality of the prior art submitted and the usage rate of the prior art by examiners. Therefore, we noted the percentage of patent applications that used third party submissions for an Office Action. If this percentage was noticeably lower than hoped, we knew that investigation into the underlying reasons was necessary.

3.2 Surveys

Upon arrival at USPTO, we were given access to a questionnaire that had been distributed by the USPTO to examiners. We analyzed the results of this questionnaire, and used it as a reference for generating a particular list of questions for our own survey. We created and anticipated distributing our own survey.

We collected both quantitative data associated with multiple choice and Likert scale questions, and qualitative data on general opinions through free response questions. We summarized the numerical results in charts, and categorized the free response answers to analyze the frequency of particular responses.

3.2.1 Existing USPTO Survey of Patent Examiners

Once we started our on-site work, our sponsors provided us with a survey that had been distributed to examiners who had reached a FAOM regarding an application containing pre-issuance submissions. This questionnaire consisted of nine questions, including open-ended responses and Likert scale questions. We then analyzed the raw data from this survey. We each separately assigned categories to the responses, and then compared the three reviews and analyzed whether all reviewers agreed for each comment. We worked through individual discrepancies on different category suggestions, so that we could reach an agreement of which category was appropriate and ensure the categories were as unbiased as possible.

Prior to coming to Washington we created a list of potential questions to include on our questionnaires. The existing USPTO survey provided us with a foundation to refine the scope of our questionnaire.

3.2.2 Survey of USPTO Patent Examiners

We created a questionnaire for patent examiners to fill out independently, anonymously and on an optional basis. Due to time limitations involving union approval and logistical

complications in compiling our list of examiners' contact information, we were not able to distribute and collect results on our survey. We planned to email the questionnaire to examiners that reached a FAOM with a third party submission, and use SurveyMonkey® to collect responses. We hoped to obtain information on the Program, which would include general opinions and suggestions, thoughts on the usefulness of submissions, and opinions on concise description formatting and examiner resources. Analysis of the data was planned similarly to that of the existing USPTO survey, with graphs, categorizations of free-response answers, and cross tabulations calculated to observe any relationships among data sets.

3.3 Interviews

Interviews were an important resource to help us evaluate the success of the Program. We conducted interviews over the phone or in person, and asked questions pertaining to the interviewee's relationship to the Program. Interviews provided personal viewpoints, and added additional insight to knowledge obtained through questionnaires.

3.3.1 Interviews with USPTO Employees

We conducted face to face interviews with USPTO employees. Our interviews addressed the successes and failures of the Program. From the USPTO standpoint, we discussed both aspects of the Program with regard to current statistical data and perceived satisfaction of those who use the Program. From the third party standpoint, we discussed improperly submitted applications, and possible ways to increase Program involvement and compliance. We also asked about current rules and regulations for the Program submissions, and if altering the regulations could improve the Program.

3.3.2 Interviews with Individuals Familiar with Third Party Submissions

Interviews were conducted via tele-communication with individuals who are knowledgeable about third party submissions and have an interest in the Program. We asked questions pertaining to areas of the prior art submission process that needed improvement, the resources that third parties use (ie, the FAQ section of the website, Quick Start Guides, and databases), and suggestions about how to increase participation and compliance of proper submissions. We also inquired about whether the system was suitable for members of the public who are not experts in patent law.

3.3.3 Focus Group with Examiners

The focus group consisted of four patent examiners, recruited on a voluntary basis, who dealt directly with third party submissions. This method was beneficial for gathering the opinions of those well informed, and involved in, the Program. We based our focus group questions on the usefulness of third party submissions. We determined whether the submissions saved the examiners time searching for prior art, and solicited general opinions.

3.4 EFS Mock Submission

We first commented on the capabilities of patent application search tools, such as Public Patent Application Information Retrieval (Public PAIR) and Patent Application Full Text and Image Database (AppFT). There has also been significant interest in improving the third party submission interface to make it more user-friendly. Currently the majority of submissions are made through the Electronic Filing System (EFS). To pinpoint areas of the submission process that could be improved, we each separately went through EFS and filled out a submission using test application and confirmation numbers provided to us. We used resources provided by the USPTO such as their FAQ section of the website and their Quick Start Guides for third party

EFS submissions. We made comments on both the ease of use of the submission system and how helpful the resources were during our test submission. We then combined our comments and analyzed any common trends and occurrences in order to highlight significant problem areas with the system. This method allowed us to get firsthand experience with the submission process and provide suggestions on how the USPTO could improve this interface.

3.5 Summary of Methods

The previously stated methods enhanced understanding of both the positive and negative aspects of the Program. We analyzed existing documentation concerning patent applications with third party submissions, determined whether submissions reduced the time spent by examiners searching for prior art and provided them with more resources, and collected common suggestions or concerns. Additionally, we examined the public viewpoint. Since submissions that are filled out incorrectly are not even considered, it was important to pinpoint areas of confusion in the submissions process, the areas that needed improvement, and aspects that were already well regarded.

4.0 Results and Analysis

The data we collected on the Program were a compilation of both quantitative and qualitative data. All of the data came from past documentation, surveys, a focus group, and interviews. Appendix D has the prior documentation data, Appendix F contains survey results, Appendix H has interview transcripts, and Appendix J shows the focus group transcript.

4.1 Prior Documentation

Some examples of the raw data concerning prior documentation are located in Appendix D. All of the results from the documentation concern submissions made before and/or on our chosen cutoff date of October 25, 2013.

4.1.1 Third Party Submissions

There were 1,204 total third party submissions made from the start of the Program in September 2012 until October 25, 2013. We found that third parties submitted a total of 3,715 prior art references through the Program, averaging 3.44 prior art references per submission. Of the total prior art the third parties submitted, 1,169 were references of NPL, 1,083 were US patents, 823 were published US Patent Applications, and 640 were foreign patent documents.

Since only proper submissions are seen by the examiner, it is important to look at the statistics regarding those submissions. There were 870 total proper submissions, with a total of 2,696 prior art references for the proper submissions. The breakdown of the reference documents submitted for proper submissions included 828 NPL documents, 796 US patents, 571 published US Patent Applications, and 501 foreign patent documents. That means 30.7% of the prior art references in proper submissions was NPL, which shows that the Program was successful in finding NPL. A patent examiner should find all patent literature within their technology center with USPTO databases; however, NPL may not be as available to the examiner through his/her

traditional research tools in comparison to a third party. In summary, the large percentage of NPL submitted through the Program is a valuable resource to the examiner.

4.1.2 Proper/Improper Submissions

We also looked at the trend of improper submissions made. We received raw data on the number of proper and improper submissions that the USPTO had received during certain time intervals. We displayed that data as a cumulative percentage of improper submissions with respect to the total number of submissions at each point in time. That data was expressed in Figure 4.1.1 below.
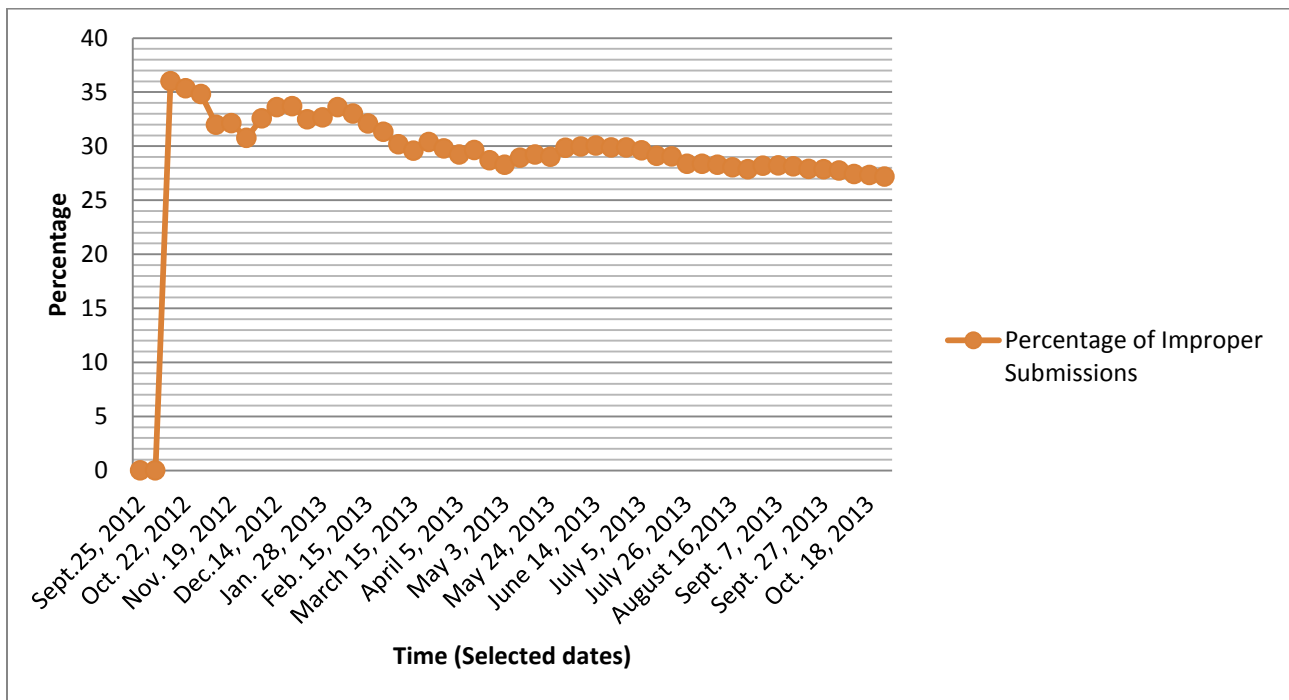
Figure 4.1.1: Percentage Improper Submissions

As seen by the figure, the percentage has mainly remained between 26% to 37% within the time period stated. Although the percentage has reduced, it has not *significantly* reduced as time passed. This data made us aware of the fact that improper submissions are still a recurring problem at the USPTO.

As a result of the previous analysis, we also decided to analyze the common reasons why applications were deemed improper. Upon arrival at the USPTO, we were given access to a master excel sheet containing data about the EFS Web submission number, the patent application number that the submission was made to, a time stamp, art unit and technology center, the submission status, a breakdown of documents the submissions contain, and a reason why some submissions were improper. A snapshot of the master excel sheet can be found in Appendix D. We looked at the 327 improper submissions and compared the frequencies of comments made in each category, as seen in Figure 4.1.2.
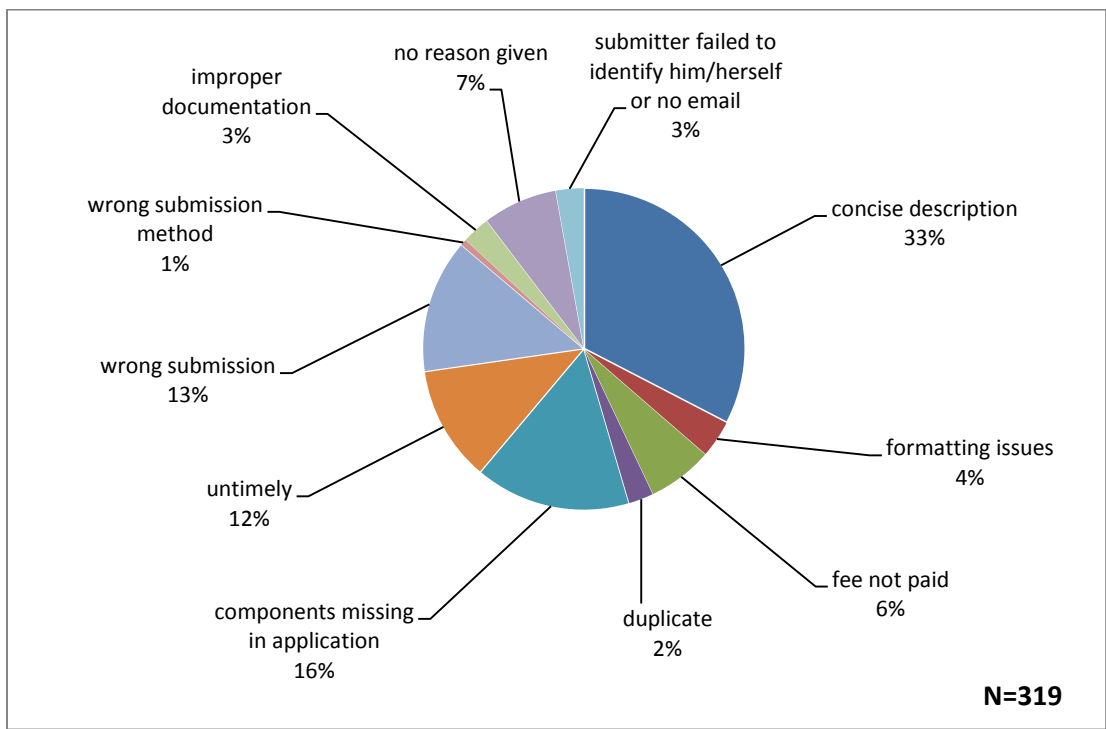
Figure 4.1.2: Reasons for Improper Submissions

"Improper documentation" included errors such as patent application numbers not matching up or errors in document titles. The "wrong submission" category included submissions made by someone who is not a third party (i.e. the inventor or someone associated with the inventor),

unintentional filings, and submissions filed to a provisional patent application. "Formatting issues" included wrong pages, illegible documents, multiple documents combined into one, and no English translations to documents in different languages. As seen from the figure above, there were a significant number of comments made about improper concise descriptions of relevance.

We further categorized these comments about the improper concise descriptions into seven sub-categories, as seen in Figure 4.1.3.
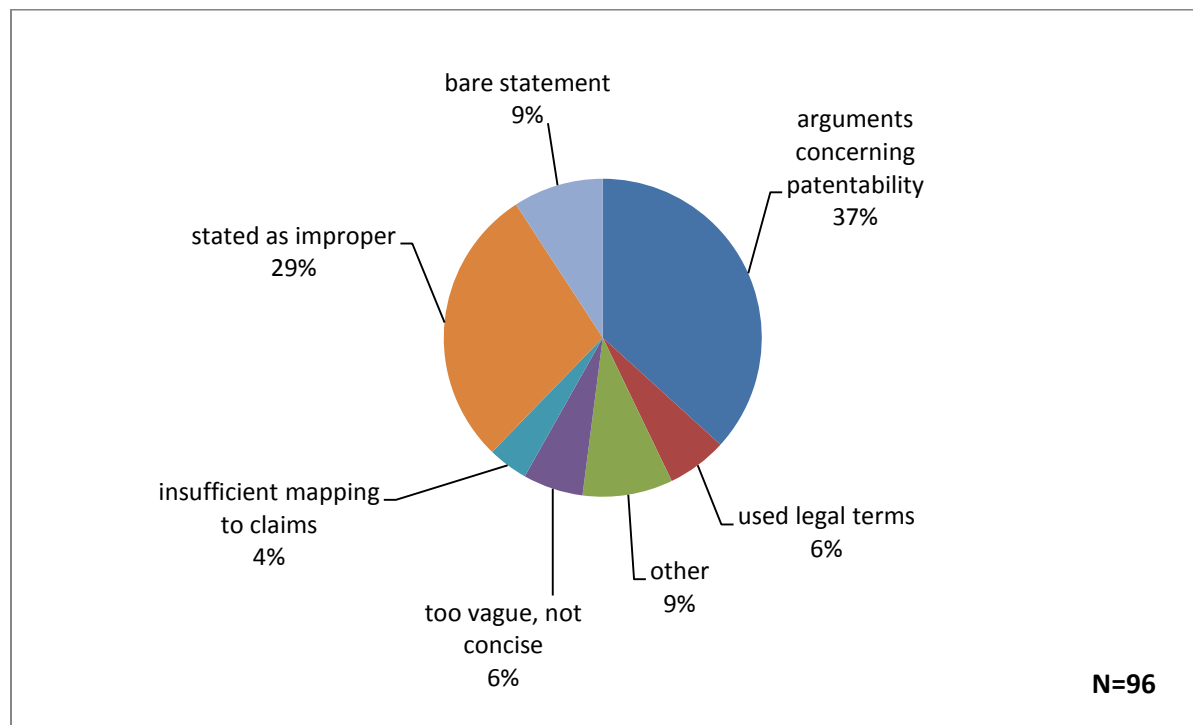
Figure 4.1.3: Improper Concise Description Categories

The "used legal terms" category was applied if the concise description included either language used in legal settings such as obviousness and/or anticipated or suggested legal opinion statements that go beyond what is acceptable. The "arguments concerning patentability" category was applied if there were statements about how the examiner should use the prior art in their office action. The "insufficient mapping to claims" category was applied if the concise description had only a generic discussion of references or cited pages, and did not include

specific claim mapping. The "other" category was assigned to miscellaneous comments that did not fit into the main categories. Twenty-nine percent of the time, the concise description was simply stated as improper and no further reasons were given in the master spreadsheet.

Through our analysis of all documentation concerning proper and improper submissions, we discerned the main reasons why submissions were improper, and concluded improper submissions are still a problem for the USPTO.

4.1.3 Patent Applications with Third Party Submissions and Office Actions

Additionally it is important to analyze the quality of the prior art submitted and the usage rate of the prior art by examiners. A snapshot of the excel sheet used to analyze the patent applications with third party submissions is in Appendix D. As of October 25, 2013, there were 253 patent applications that had both a third party submission and an office action by the examiner. Of those applications, 35, or 13.83% had used the third party submissions in the office action.

4.1.4 Summary of Prior Documentation

In summary, through content analysis of all existing documentation given to us, we have found that there are both areas of the Program that are positive, and areas that need to be addressed and improved.

4.2 Patent Examiner Surveys

This section includes the results of the questionnaire that was distributed to examiners before our on-site work began, and the survey we developed. Snapshots of the original examiner surveys are located in Appendix E, and the results are located in Appendix F.

4.2.1 Existing PTO Examiner Survey

This section includes information about the raw data that was collected, the relationships among that data, and the conclusions drawn by the group.

Raw Data Collected

The existing survey administered to PTO examiners asked both Likert scale questions and free response questions, concerning topics including the usefulness of the submission, the helpfulness and impact of the concise description of relevance, and the time it took to evaluate the submission.

Questions 1 and 2 asked demographic information concerning the specific case the questionnaire was in regards to. Question 3 asked if the submission was before the first office action, and if so, was the submission already considered by the examiner. In other words, if the third party submitted the same information that the examiner had already identified by himself/herself, did the examiner actually use said information in the office action. Of the examiners who did answer this question, 23% of them actually had considered the submission before FAOM.

The fourth question asked examiners to overall rank how useful they felt the third party submission was during the examination of the application, on a scale from not at all useful to greatly useful. The results are shown below in Figure 4.2.1. About half of the sample pool found the submission positively useful; 23% responded the submission was useful to a great extent and 29% responded that it was useful to a moderate extent. The greatest response was that the submission was useful to a limited extent, with 35% of responses in this category.
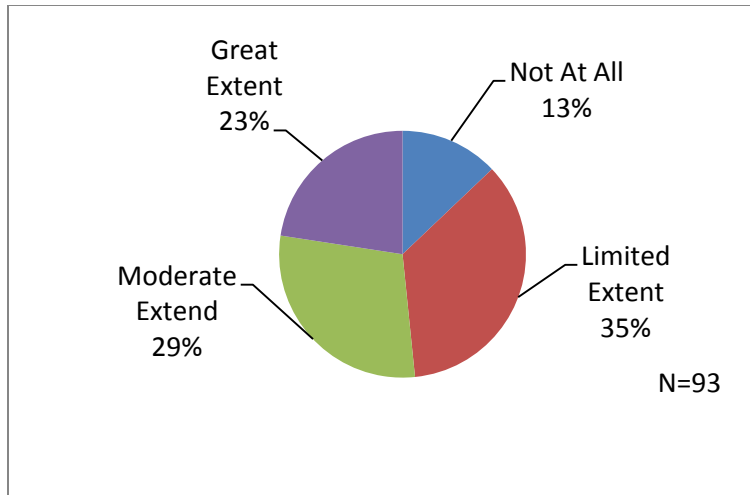
Figure 4.2.1: Extent the Third Party Submissions Were Useful

Question 5 asked to what extent the concise explanations were helpful, and to provide any explanations. The graph is shown in Figure 4.2.2. More than half of responders found the description at least partially helpful – 31% of examiners found the concise description greatly helpful, and 30% of examiners found the description moderately helpful.
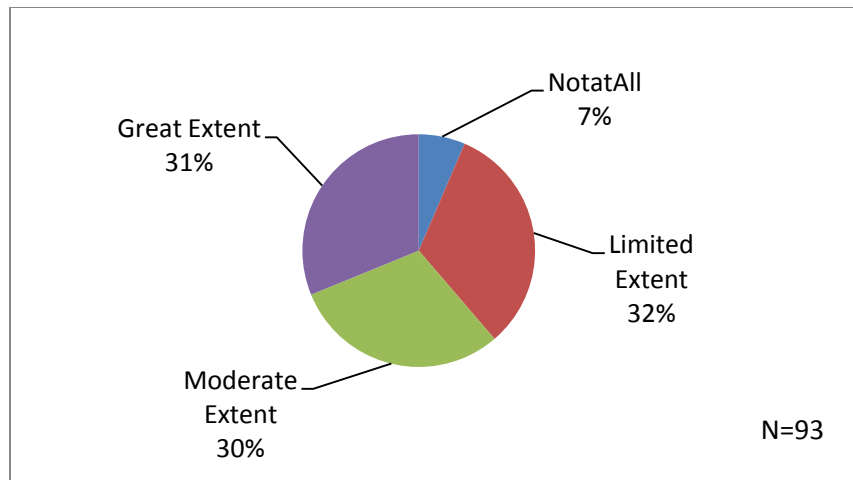
Figure 4.2.2: Responses to Extent of Helpfulness of Concise Explanations

We noticed a significant difference between the comments made for each answer type. Of those who chose moderate to great extent, the majority of comments said that the concise explanations were specific, detailed, and mapped the claim language to the reference. Some example

comments are, "The explanations pointed exactly to the part of a previous patent and a previous patent application that were relevant to the case, and explained the relevance," and "the third party submission mapped the claim language to the pertinent teachings in each of the cited documents, which helped me to determine the relevant art. The descriptions also reaffirmed my view on the cited documents I had previously considered." Of those who chose not at all to limited extent, the majority of comments explained the fact that the concise explanations were not clear and had drawbacks, or were not relevant to the claimed invention. Some example comments were "the concise description glossed over the limitation which was at issue and failed to provide proper evidence to show obviousness and anticipation of the specific limitation at issue", and "The references provided by the third party and the explanation did not apply to the amended claims".

We then categorized all of the total responses for Question 5, and these comment categories were tallied in order to get an overall idea of what aspects of the concise explanation were beneficial to the examiner, and what aspects needed to be improved. The categories developed were: no response, not clearly relevant, specific/helpful/concise, not completely helpful/some drawbacks/some limitations, timing, used alternative reference material, and information to the examiner. The following Figure 4.2.3 below shows the number of responses that fell into each category. The most frequent response fell into the "specific/helpful/concise" category, with 44% of the total answers in this category. This category included responses about the helpful language, helping the examiner know which specific portions of the included submission was most relevant to the case, and the existence of thorough explanations. The next largest group was the "not completely helpful/some drawbacks/some limitations" category. Responses for this group included concise descriptions that were too broad, excessive in length,

or contained claimed subject matter that was only partially disclosed. Ten percent of responses fell in the "information to the examiner" category, which was applied when the examiner either said the references were already found, didn't disclose information not already know, or if the references may be used in the future. For the six percent of responses in the "timing" category, the submission was made after a first action, after the examiner's own prior. The "used alternative reference material" category was applied when the examiner considered the third party submission, but used their own references in their office action art search and first action draft, or to an abandoned application.
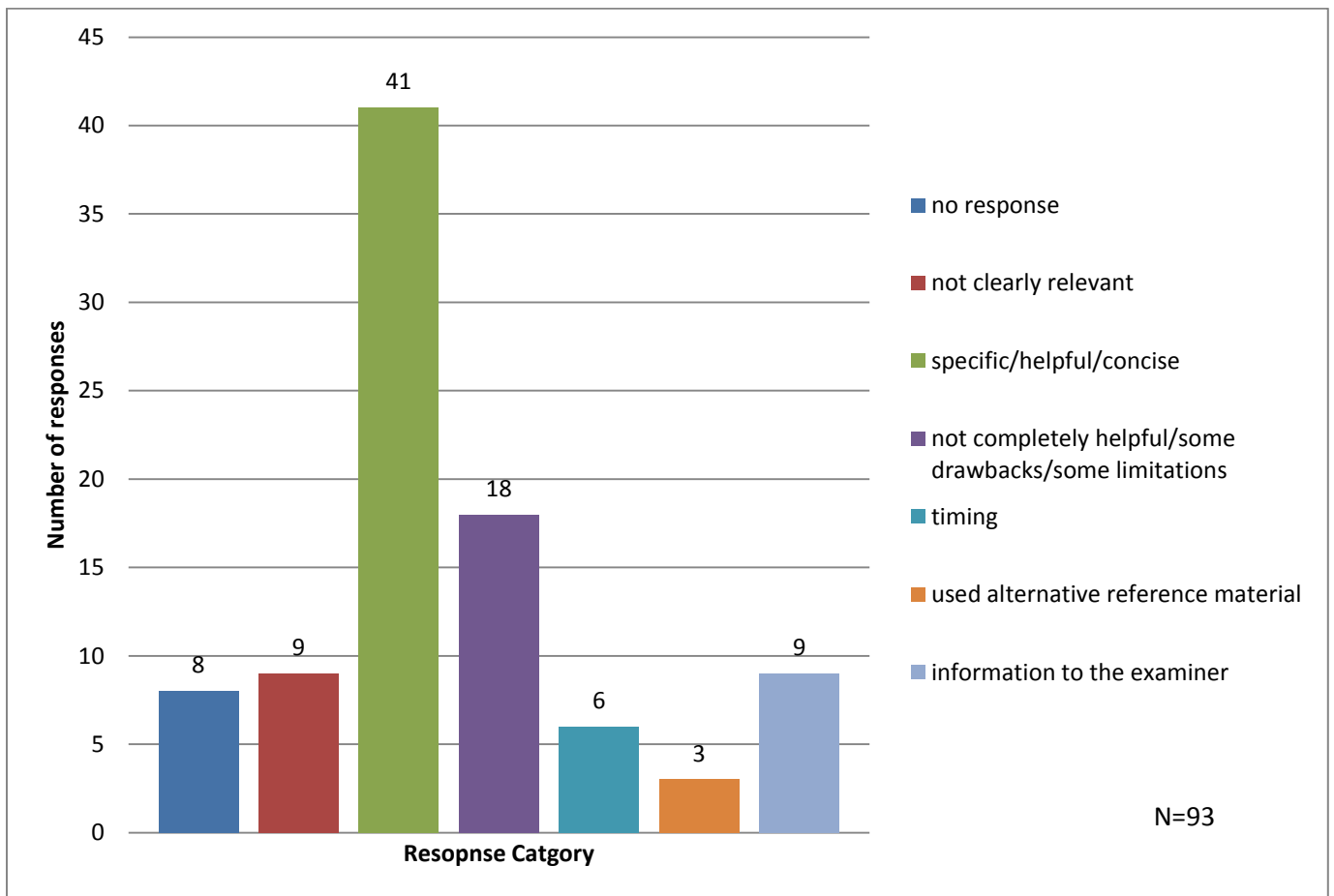
Figure 4.2.3: Comments on the Helpfulness of the Concise Explanations

Question 6 asked examiners what impact the concise explanations had on their consideration of the submission, on a scale from overall saved time to took more time, and included an "other" choice. The examiners were also given the opportunity to explain why they chose a specific answer. The results of this question are shown below in Figure 4.2.4. Almost half of examiners found that considering the explanation actually saved time, and only 26% of examiners found it increased the amount of time spent considering the submission.
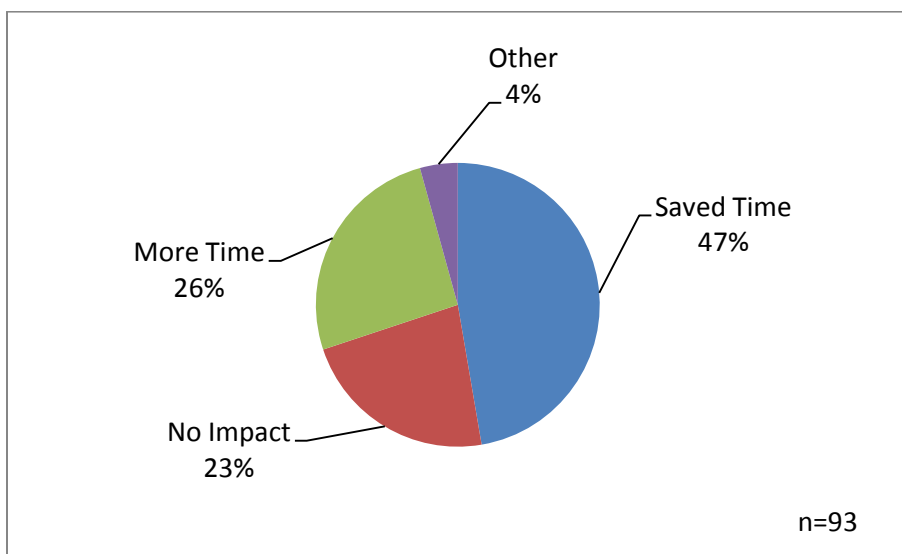
Figure 4.2.4: Impact of the Concise Explanations on Consideration of the Submission

Of the examiners who said it saved time, the majority of the comments indicated that the concise explanation directed the examiner to search keywords and that it included helpful claim charts. Some example comments are, " [it] directed me to what keywords I should expect and search for while reading and whether the reference warranted a skim read or a detailed reading", and " the comparison chart of the one limitation by one limitation between the claimed invention and the prior art citation saves time". Of the examiners who said it took more time, the majority of comments stated that the concise explanation was too long, broad, or not clearly relevant. Some example comments are "the 'concise' submission was 37 pages", and "the submission was more

focused on the broad aspect of the intended use of the claimed invention rather than the key specific features".

The total responses to the comment portion of this question were also categorized and tallied in order to get a broad idea of both the positive aspects of the concise explanations, and what needed to be improved. Figure 4.2.5 below shows the frequency of each free response category. Almost half of the responses given found the concise explanation actually helpful. Ten percent of responses found the explanation was not helpful, and another fourteen percent found the explanation was complicated, too long, or was not specific enough.
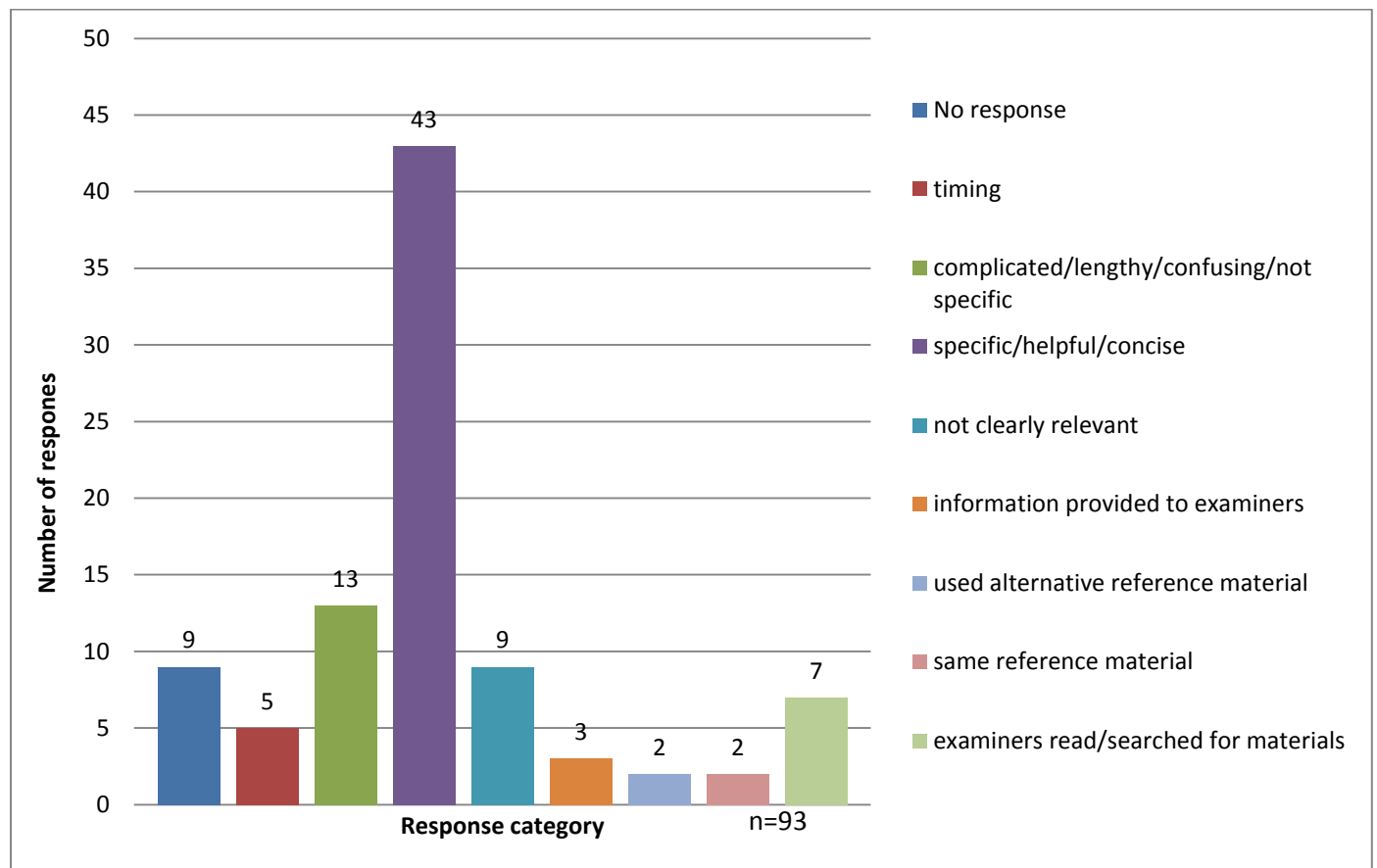
Figure 4.2.5: Comments on the Impact of Concise Explanations on Consideration of Submissions

A fill-in-the blank question was also included in the survey, asking the examiner how many hours and minutes were spent considering the submission. The total time spent was calculated by adding the hours and minutes together, and then a histogram was created to show the distribution of how many hours the examiners spent considering the submission, shown below in Figure 4.2.6. Sixty-four examiners spent one hour or less considering the submission, and another nineteen examiners spent two hours considering the submission. Only a few examiners spent more than two hours considering the third party material.
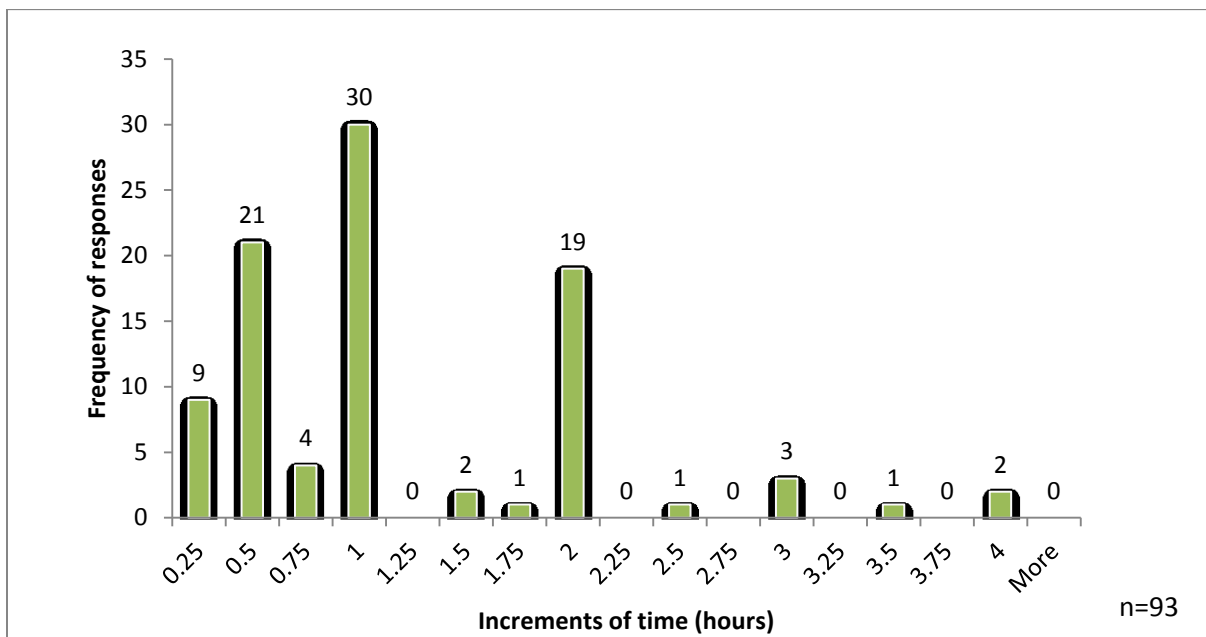
Figure 4.2.6: Total Hours Spent Reviewing Submissions

The two final questions were open-ended response questions, and asked for any recommendations or other comments, respectively. The responses for these questions were also categorized according to trends in response types. Figure 2.4.7 below shows the graph of categorized responses to Question 8. Only about half of the responses to the question provided a specific answer besides "no suggestion" or "no response." Of the answers that were specific, 13% pertained to the language involved in mapping the claims, 10% dealt with the concise

explanations, and 7% were related to the explanation of relevance. Examiners wanted "mapping to claim language" so that "relevance of the documents was tied directly to the limitations of the claims." For the concise explanations that were clearly written, the examiners applauded the work of the submitter; for the submissions that did not have well-written concise explanations, the examiner suggested the submitter make the explanation more concise. The examiners that reported an answer in the explanation of relevance category reported that submitters should make sure that the explanations apply to the published claims and that "the submission of the description should provide more specification explaining for specific claimed invention."
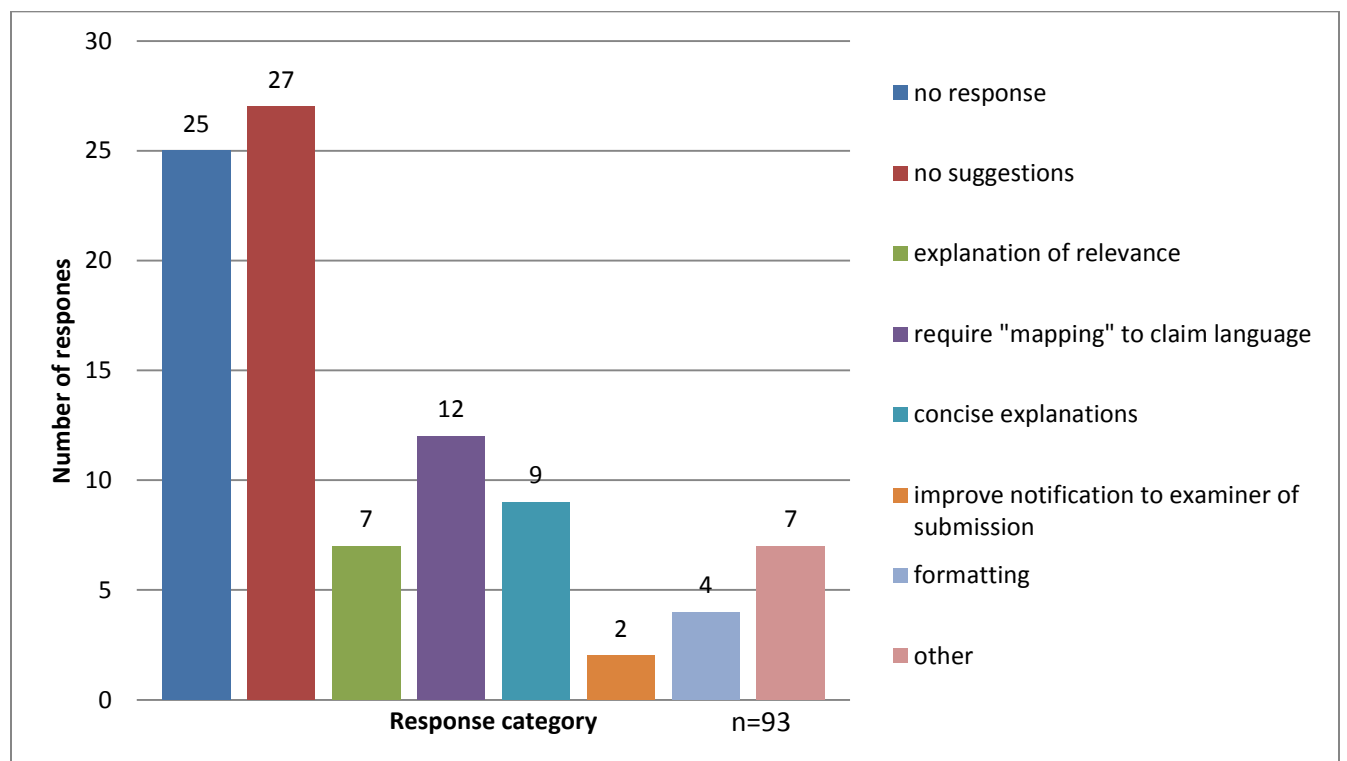
Figure 4.2.7 Recommendations on Improvements to Concise Descriptions

Figure 4.2.8 below shows the categorized answers for Question 9. For this question, which concerned any general comments, about 50% of examiners reported an answer. The graph shows that excluding the majority of responses that fell into the "no response" category, the

actual suggestions were split somewhat evenly across the other categorized groups. The

comments pertaining to more training and resources for the examiner involved more preparation

to examiners and a better explanation of form paragraphs needed for the examiner. Some

examiners found that the submissions did not identify any new resources. For the examiners who

did find the submission helpful, common responses included the submission identified new areas

to search for prior art, and the material helped in the rejection of the application.
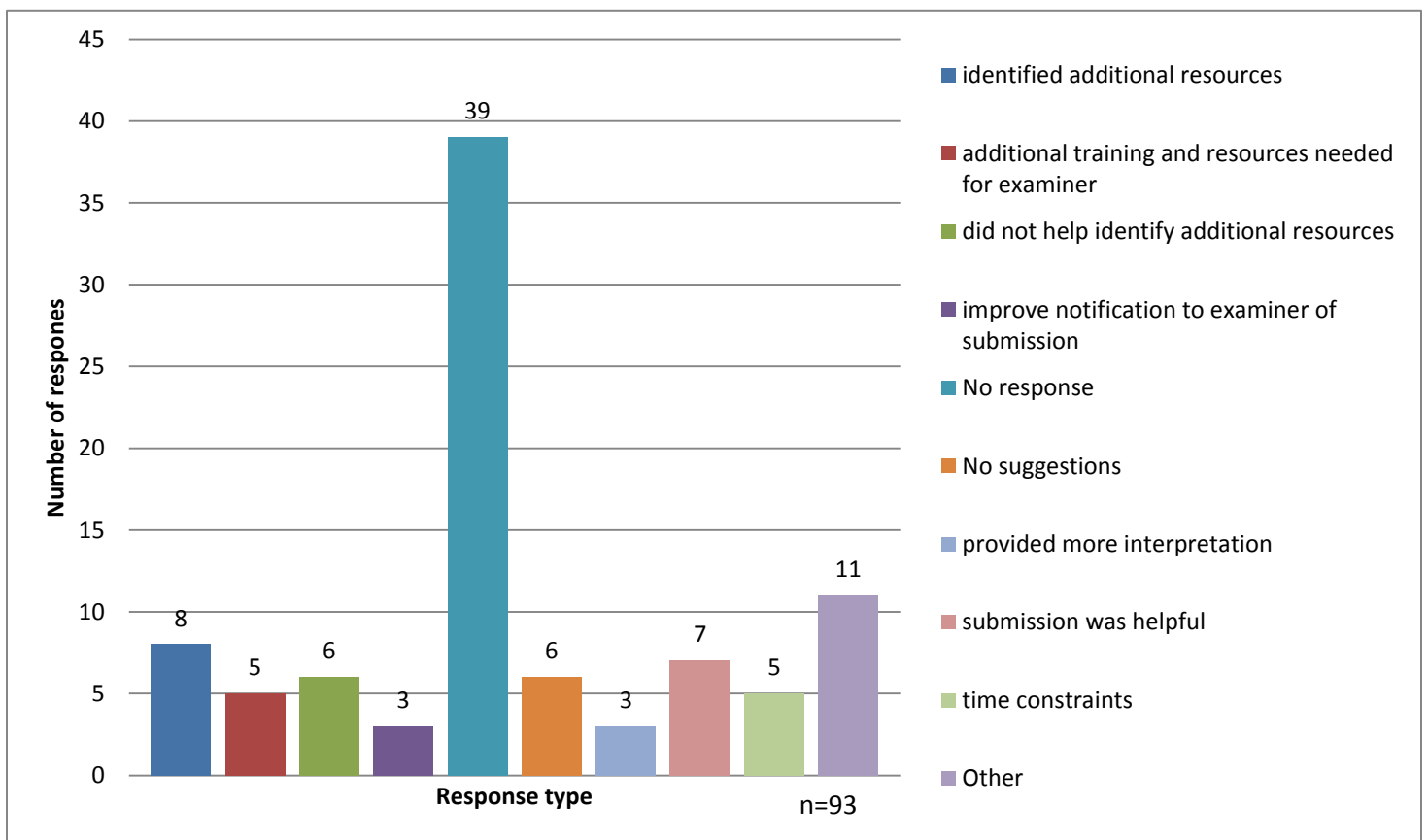
Figure 4.2.8 Responses to Open-Ended Comments

Observed Relationships of Data

Once the data was summarized for each question, data analysis was performed to

determine if any correlations existed between different data sets. A cross tabulation was

calculated between Question 4, which asked examiners to rank how useful they found the

submission, and Question 5, asking examiners to rank to what extent the concise explanations were helpful in identifying the important parts of the submission. Once the cross tabulation was calculated, we determined the percentage of answers that ranked the submission to be moderately to greatly useful within each of the categories of the extent to which the concise explanation was helpful. The graph shown below in Figure 4.2.9 contains an X-axis that displays the extent to which the concise explanation was helpful, and the Y-axis displays the percentage of responses that also fell into the moderately to greatly useful category. For the responses that said the concise explanation was greatly helpful, 83% of responses fell into the moderately to greatly useful submission category. For the responses that ranked the concise explanation was not at all to moderately helpful, 38% of responses ranked the submission to be moderately to greatly useful.
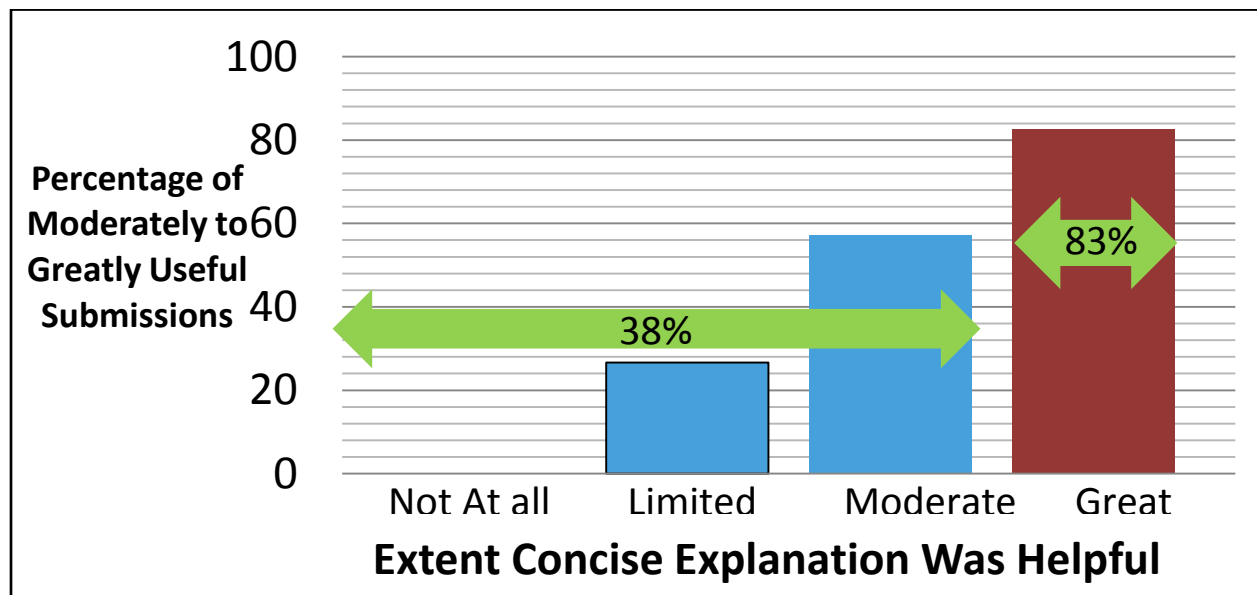
Figure 4.2.9 Results from cross tabulation of extent usefulness of submission and extent helpfulness of concise explanation

We found that when the concise explanation was considered greatly helpful, the submission was two times more likely to be moderately to greatly useful.

Additionally, we studied the relationship between the overall usefulness of the submission, and the impact of the concise explanation on the time spent considering the submission. The graph from this cross tabulation is shown in Figure 4.2.10. The X-axis lists the four categories of how the concise explanation impacted the time spent considering the submission, and the Y-axis shows the percentage of responses that were also in the moderately to greatly useful category. For responses ranked in the saved time category, 61% of responders also considered the submission moderately to greatly useful. For the answers of concise explanations that fell into the no impact, more time, or other categories, 42% of examiners found the submission to be moderately to greatly useful. Of the individuals who found the submission saved time, 25% said it was moderately useful, and 36.4% said the submission was greatly useful.
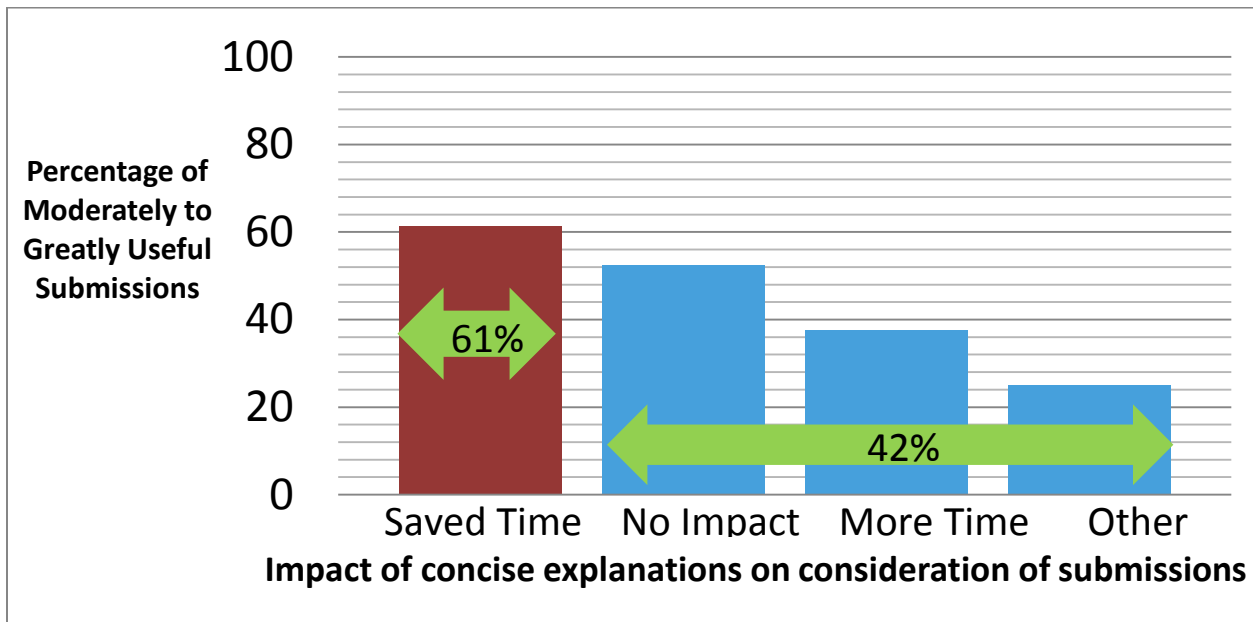
Figure 4.2.10 Results from cross tabulation of extent usefulness of submissions and impact of concise explanations on consideration of submissions

We found it is 1.5 times more likely for the submission to moderately to greatly useful when the concise explanation saved the examiner time.

The next association analyzed was how the time spent considering the submission impacted the examiner. The total amount of time spent reviewing the submission was separated into three ranges of less than a half hour, a half hour to one hour, and more than one hour. Each of these ranges was cross tabulated with the categories of responses of the extent to which the submission was useful. The resulting graph is shown in Figure 4.2.11. The X-axis depicts the categories for how useful the submission was considered, the Y-axis depicts the number of responses in each subcategory, and the different colored vertical bars represent the ranges of hours spent reviewing the submission within each usefulness category.
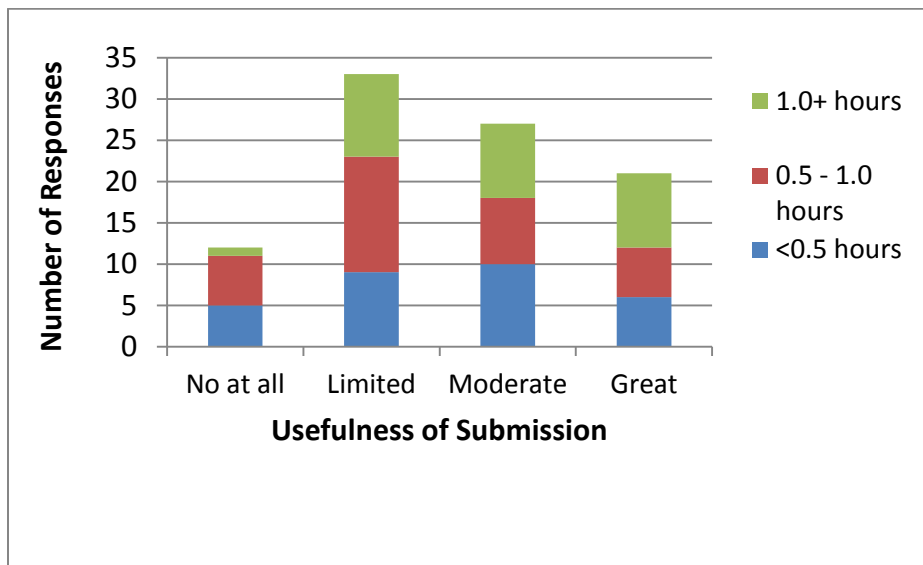
Figure 4.2.11 Cross tabulation results of extent usefulness of submission and total time spent considering submission

Of the individuals who found the submission greatly useful, 42.9% spent one hour or more reviewing the submission. Of the individuals who found the submission not at all useful, 8.3% spent one hour or more reviewing the submission. Examiners were five times more likely to spend one hour or more considering the submission if they found the submission greatly useful, compared to examiners who found it not at all useful.

The next step was to analyze the relationship between the total time spent considering the submission and the extent of how helpful the concise explanations were considered. A cross tabulation was calculated between these two questions. No explicit relationships were observed that would lead to a conclusion of a direct correlation between the number of hours spent considering a submission and how helpful the concise explanation was. The one important note we did observe from this relationship was that overall, when the concise explanation was not at all helpful, the examiner did not spend more than one hour considering the submission.

We also cross tabulated the average time spent to consider each submission with the categories of the usefulness of the submission and the helpfulness of the concise explanation. We did observe the same pattern between the usefulness of the submission and the helpfulness of the concise explanation, which is graphed in Figure 4.2.12. The X-axis depicts the categories to extent the submission was useful and the extent to which the concise explanation was helpful, the Y-axis represents the average time, and the horizontal lines show where the average time point was in each category. The average time spent considering the submission, across all categories, was 1.17 hours. When the submission was not at all useful and the concise explanation was not at all helpful, the examiner spent the least amount of time considering the submission. When the submission was greatly useful and the concise explanation was greatly helpful, the examiner spent the most amount of time considering the submission.
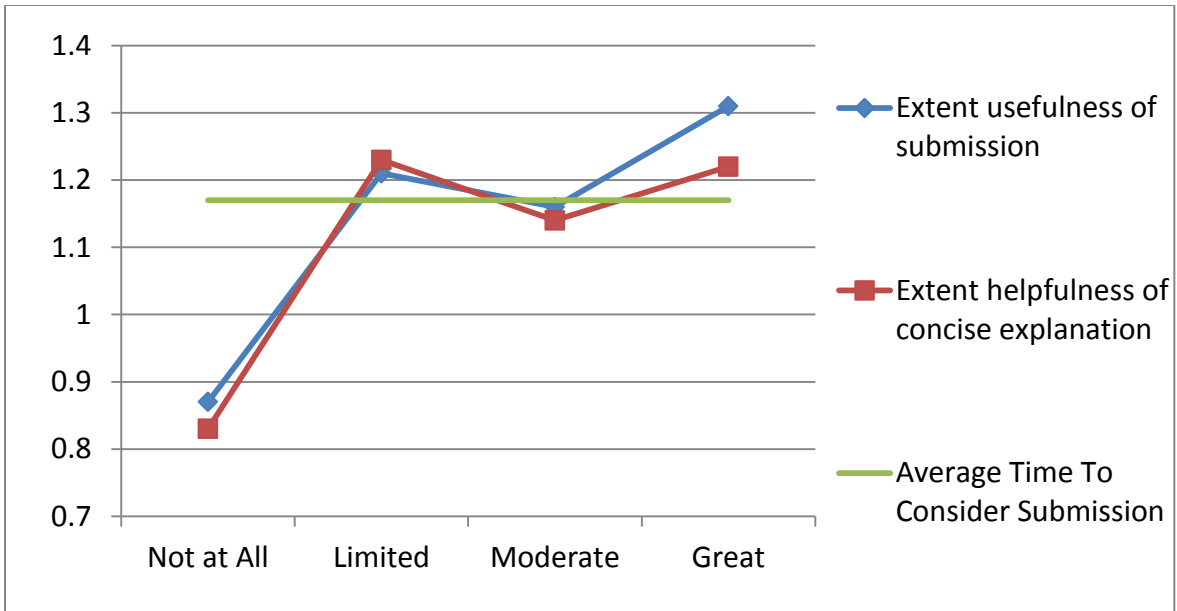
Figure 4.2.12 Cross tabulation results of average time spent considering submission and extent usefulness of submission and extent helpfulness of concise explanation

As the examiner's opinion of the usefulness of the submission and the helpfulness of the concise explanation became more positive, the average time spent considering the submission also increased.

The final relationships observed focused on the number of references submitted. The number of references submitted was grouped into categories of 1, 2, 3, 4 – 6, or 7 or more references. These categories were then used in the cross tabulation calculations with the usefulness of the submission the helpfulness of the concise explanation. No definitive relationship observed could indicate a direct relationship.

Summary of Survey Data

From all of the information we collected and compared, we deduced some patterns and relationships between data, and we formed conclusions about this information. When asked to rank the extent to which the submission was overall useful, and to rank the extent to which the concise description was helpful in considering the submission, around half of the responses were

positive, falling into the moderate or great extent categories. Additionally, around half of examiners found the submission saved them time. When we categorized the free response questions into different groups, many comments were positive, and fell into the "specific/helpful/concise" category, from which the group summarized positive aspects to maintain. The areas of improvement in the free response questions were grouped into categories, and general areas of weaknesses were determined; as such, we took note of specific areas to investigate further.

Cross tabulations of the raw data and graphs of these calculations helped show relationships between data sets collected from different questions. We found that when the concise explanation was considered greatly helpful, the submission was two times more likely to be moderately to greatly useful. We found it was 1.5 times more likely for the submission to be moderately to greatly useful when the concise explanation saved the examiner time. Examiners were five times more likely to spend one hour or more considering the submission if they found the submission greatly useful, compared to examiners who found it not at all useful. When observing the average time taken to consider the submission, it was found as the examiner's opinion of the usefulness of the submission and the helpfulness of the concise explanation became more positive, the average time spent considering the submission also increased. When the concise explanation was not at all helpful, the examiner did not spend more than one hour considering the submission. There was no definitive relationship observed between the number of references submitted and usefulness of the submission, the helpfulness of the concise explanation, or the impact of the concise explanation in terms of time saved.

In conclusion, we know that a positively considered submission is more likely to have a helpful concise description, which will help the examiners save time. Examiners deduced quickly

which submissions were unhelpful, and for the submissions that were helpful, examiners spent one or more hours reviewing the submission. As the examiner's opinion of the extent usefulness and extent helpfulness improved, the average time spent examining the submission also increased.

4.2.2 Our Examiner Survey

Due to the constraints outlined in our methods, we unfortunately could not distribute and analyze the results of our examiner survey that had been planned. Outlined below is the information and relationships we hoped to analyze.

Raw Data

We hoped to collect and analyze all of the responses to each of the questions asked on the survey. We hoped to organize the data in the following ways:

1. Pie chart for responses to Question 2 (Did you use the third party submission in your office action?)

2. Bar graph of responses for Question 3 (What percentage of your total prior art search time do you spend searching for NPL?)

3. Individual pie charts for response for each of the questions asked in Question 4. Please rate your agreement with these statements:
    a. the 3rd party submission was easily indicated and visible within eDan
    b. the submission was received in time for consideration
    c. as an examiner, you have enough training/resources to properly address and process the third party submission

4. Individual pie charts for responses for each of the questions asked in Question 5 Please rate your agreement with these statements:
    a. the 3rd party submissions were useful during the examination process
    b. the prior art submitted was relevant with respect to the patent application
    c. the 3rd party submission allowed you to find prior art that was not easily found with USPTO resources

5. Categorize responses and use a bar graph to show the categories of the responses to Question 6 (Any comments on the usefulness of the submission, relevance of the prior art, or why or why not the submission was helpful?)

6. Pie chart for response to Question 7 (Please rate your agreement with this statement: The concise description of relevance was useful.)

7. Categorize responses and use a bar graph to show the categories of the responses to Question 8 (What type of standardized format of the concise description of relevance would you prefer?)

8. Categorize responses and use a bar graph to show the categories of the responses to Question 9 (What should the page limit of the concise description of relevance be?)

9. Individual pie charts for responses for each of the questions asked in Question 10
   Please rate your agreement with these statements:
   a. the inclusions of the submission decreased the time spent searching for prior art
   b. the 3rd party submissions made the examination process more efficient

10. Categorize responses and use a bar graph to show the categories of the responses to Question 11 (Based on your answers in Question 10, can you explain how the submission impacted time spent?)

11. Categorize responses and use a bar graph to show the categories of the responses to Question 12 (If you did not use the prior art, can you explain why?)

12. Categorize responses and use a bar graph to show the categories of the responses to Question 13 (Do you have any suggestions on how 3rd party submission can be improved?)

13. Categorize responses and use a bar graph to show the categories of the responses to Question 14 (Do you have any other comments/suggestions/concerns that you have not previously stated?)

Once this data was collected, we could see if any one question had a particular category that was decidedly more frequent than another category, and look at the response types within that popular answer given.

Observed Relationships of Data

Once all of the raw data was collected, we also hoped to perform cross tabulation analysis on the following relationships:

1. Question 4a and Question 4c

2. Question 5a and 5b

3. Question 5a and Question 5c

4. Question 5b and Question 5c

5. Question 5a and Question 7

6. Question 5b and Question 7

7. Question 5c and Question 7

8. Question 5a and Question 10a

9. Question 5a and Question 10b

10. Question 5b and Question 10a

11. Question 5b and Question 10b

12. Question 5c and Question 10a

13. Question 5c and Question 10b

14. Question 7 and 8

We are not entirely sure what relationships would have been found seen since we were unfortunately not able to complete the acquisition and analysis of this information. The team in charge of administering the survey could work with the USPTO statistician for help in acquiring the cross tabulation tables, and then graphing these results once the tabulations were performed. We hope that this provides an outline of information we would have liked to compare, and see any resulting relationships.

4.3 Interviews

Interviews were completed with USPTO employees and knowledgeable third parties involved with the Program. Protocols are located in Appendix G and the interview transcripts are located in Appendix H.

4.3.1 Interviews with PTO Personnel

This section includes interviews with PTO employees, including a PTO director, managers, and individuals involved with implementation of the Program.

4.3.1.a Interview with a member of the Legal Department

As a part of the legal department at the USPTO, this individual was involved with drafting the rules and policies regarding the Program. Our interview focused on gaining a better scope of how and why certain policies of the Program were made. Her group was in charge of evaluating the comments from the public and writing the final rules. She mentioned that throughout this process, she was constantly getting comments back and had to revise the document. Her group was also largely responsible for implementing the FAQ section of the website and making sure it complied with all the rules and policies.

One of the main things she clarified for us was the fact that some policies were Congressional statutes, and therefore could not be changed; however, other policies made by the USPTO were not permanent and had varying amounts of flexibility. The policies that were in the Congressional statute were the six month timeframe for submission policy and the provision that prohibits third parties to include statements regarding patentability in the concise description of relevance. She was not sure exactly why a six month timeframe was chosen, but she thinks the time frame gave enough time for third parties to submit, yet did not slow down the patent prosecution. As far as the concise description, the Congressional statute was made to prohibit content that could potentially amount to a protest after the patent is published.

The USPTO had more leeway concerning other policies. She stated that her group had a decent amount of flexibility, but there were some congressional limitations to the USPTO rule making. The ten reference maximum for each submission was largely determined by the electronic interface and IT Implementation. There was a limit on the number of uploads that the

system could handle on the user-side of the EFS interface, so they wanted to make sure that the electronic system could handle all the submitted documents. The decision to make the first three references in the submission free came from the Director at USPTO at the time of Program implementation. She felt this number of free prior art references was chosen to have a balance of encouraging participation, yet keeping the prior art focused and making third parties submit only the best prior art so that the examiner is not bogged down. She stated that it might be possible for future revisions to the policies if it is not a permanent component of the statute, such as the fee structure. Fees are left to the discretion of the Director at the USPTO. Changing the fee structure would involve a long and arduous process, and any changes to fees would still be difficult.

We also asked her if she thought the concise description should have a page limit. She thought it was hard to pick a length because you don't know how many claims the third party is going to address in the patent application. She thinks that third parties would be motivated to keep it short, concise, and focused to help the examiner. She also stated the USPTO has the ability to reject descriptions that are too long.

One of the main things she had to do was revise the Rule 99 (the precursor to the AIA law that previously allowed third party submissions) of the Manual of Patent Examining Procedure (MPEP) since the new Program was in effect. The MPEP document is a published version of the patent laws. She thought that once the manual for this year is distributed, the Program should improve since the new manual includes more information about the concise description and more examples. The manual is not currently publicly available; however, she mentioned it is very far along in the process to be released soon.

As far as marketing and advertising, the interviewee traveled on a few of the roadshows to promote AIA, including presentations about the Program. The roadshows took place at various

locations, including a public library in Ft. Lauderdale and a New York City public library that had a heavy attorney focus. The audience at the roadshows included general members of the public, inventors, and attorneys. Although the roadshows involved a lot of general AIA content, the roadshows were not specifically focused on Pre-Issuance Submissions. She felt that a roadshow about the Program alone would not be feasible because there was not a sufficient amount of content to present.

In conclusion, she felt that the main improvement that the Program needed was more education for third parties.

4.3.1.b Interview with a Technology Center Director

This individual was asked to lead the P2P Program. Naturally, he was selected to lead in implementing the AIA law which resulted in the Pre-Issuance Submissions Program. The goal of the Program was to make the USPTO more transparent to the public. This goal was attained, but there is still room for improvement.

There were a few surprises that came with the Pre-Issuance Submissions Program, the first being that NPL was the most commonly submitted form of prior art by third parties. This shows that the Program is providing art not available to examiners through typical tools. He also mentioned that participation in the Program was four to five times what he expected. However, only thirteen percent of the third party art submitted through the Program so far has been used in an office action. The interviewee expected twenty percent. There may be a percentage of inaccuracy with the data collection process that shows the usage rate as only thirteen percent, but this inconsistency could also be an indication that quality of art is sub-par. There has been more participation in this Program than there was under Rule 99. This means the public is aware of the Program and can successfully submit prior art through the current system, but in order to

increase participation, more advertising and alteration of the system can help as there are a few shortcomings in these areas.

There were several reasons suggested by the interviewee as to why members of the public submit prior art. First, corporations provide incentives to their employees to participate in the Program. A second reason, which also applies to corporations, is that submitting prior art is a means of ensuring competitors' patents do not get issued. On the personal level, individuals participated because they are passionate about a certain type of intellectual property or the business of patents in general, and genuinely think their prior art can impact examiners' decisions. With the "customer" base presented here, it is important that the USPTO bear both corporations and individuals in mind when modifying the Program. It is also important to consider submitters' motives for submitting when redesigning the system.

On the other hand, the interviewee stated reasons why people do not submit. One reason is the lack of public interest. The interviewee attributed this to the fact that many people who want to submit have full time jobs and they are put off by the work involved in submitting prior art. Making this process easier and faster can help with this. The interviewee suggested a more user-friendly interface and a one page submission form. Another reason people do not submit is that they lack knowledge on the Program. Remedying this involves simplifying the Quick Start Guides and FAQs on the USPTO website and putting them in a location where submitters are more likely to find them. There are also helpdesks at the USPTO that can be of use to participants which we were previously unaware of. This shows that working on advertising can improve the quality of art and increase participation in the Program.

The interviewee included some forms of advertising that already exist. This includes a Federal Register, which communicates to the public about proposed changes to policies and new

Programs at the USPTO. There is also a section on AIA on the USPTO website. This section, however, is hidden and must be made readily accessible to submitters in order to more efficiently spread information on the Program. Some less feasible advertising options to consider, due to lack of funds, are radio and television ads and a dedicated webpage to the Program. All three of these forms of advertising would reach a significant amount of people and the dedicated webpage should contain information on the Program in one place so no secondary burdens are introduced when participating in the Program. The USPTO currently has a Facebook and Twitter page that can also be used to reach large audiences, but the interviewee feels these seem to be underutilized; the interviewee did not frequently visit these pages and was not sure if they were still active (he did not receive any online notifications about the pages or hear any discussion on them at the office). To reach more people the interviewee was also willing to reach out to human entities such as universities and corporations to promote the Program.

The interviewee explained a major reason why the Program is not running under optimum conditions is because of lack of funds. The USPTO did not have the funds to make a new submissions page designed specifically for novice users who are not experts in patent affairs. Instead, USPTO recycled an old online interface that was designed for people well versed in patents and the patent process for use in the Program, which is a major cause of submissions being deemed "improper". To increase funds the interviewee suggested that the USPTO can reach out to non-profits, increase fees, or talk to businesses that may be willing to invest in this Program. Although the USPTO can use extra funds, the interviewee also suggested eliminating fees. The interviewee stated that although fees do not seem to be hindering people from submitting, and the USPTO is not making a profit off of the fees, the fees from this Program ensure that there are no frivolous filings. The interviewee later stated that most submissions are

relevant. This shows frivolous submissions are not much of an issue and eliminating fees may be more beneficial than charging fees.

The interviewee was also open to having a crowd-sourcing format for submissions. In this type of format submitters can collaborate on submitting prior art to a particular application on a forum-style webpage and then vote on the best piece of art out of the collection to submit. This was successful in the P2P Program and can potentially increase the percentage of prior art submissions used since the art is thoroughly reviewed by multiple participants before being submitted to USPTO.

The tools available to third party submitters were also discussed. The public has access to all databases examiners do, albeit for a fee. We were unaware of this even after going through the submissions process ourselves, and many members of the public may be also. The tools available to participants are not centrally located and neither is the data made available to the public on the Program and other affairs of the USPTO. Many members of the public seem to be unaware that there is a large amount of data that the USPTO has disclosed and the interviewee attributes this to the fact that the data is released sporadically as opposed to being packaged together nicely. If data, tools, and all other pieces of information important to submitters are centrally located, then the public will feel more confident and less burdened about participating in the Program.

From this interviewee, we deduced that the Program is not presented in a polished way to third parties through advertising or through the Program interface. Participants submit prior art for reasons that are important to them or their corporation so it is vital that this Program appear official and important to the USPTO.

4.3.1.c Interview with a Manager

We interviewed someone who was heavily involved in the third party submission reviewing process, which determined if submissions were proper or improper. We asked him questions regarding the current process for reviewing submissions and how to improve the resources given to third parties. He stated that there is currently a daily report that is generated from EFS and lists all of the submissions from the day. The report gets forwarded to POC's through email, and they sort the submissions based on their respective technology center to determine which submissions belong to them. He noted that although the current process is easy and does not take up much of their time, it would be beneficial to have the system send individual notifications based on technology center classification so they do not have to check every day if there are new submissions.

We asked him some questions about how to reduce improper submissions, and if some errors are easier to reduce than others. For individuals who submit more than once, he explained that they go through a self-correcting process. Once a user makes a mistake and USPTO sends back the mistake to be corrected, the submitter is less likely to repeat this mistake. The easiest errors to fix are ones with formality issues. The hardest aspects of the submissions to correct are when the rules are unclear, such as with the concise description; you then have to rely on your own judgment and sometimes have to take the issue to "higher-ups". He also emphasized that his group has told third parties what are acceptable forms of evidence of publication, but some submissions still include "creative" ways of showing evidence. With that respect, he said it would be helpful to include more examples of acceptable concise descriptions and what USPTO accepts for evidence of publication on the website. It should include a caveat like "this is not the only way of doing this, but…[here are some examples]".

He stated that in order to lessen the number of improper submissions and provide more resources to third parties, USPTO tried to update the user's guide and work with OPLA to list some do's and don'ts on the webpage; however, this has yet to be posted. They tried to include warning boxes within EFS, and tried to make system as fool-proof as possible.

However, he noted that things could always be improved. One problem is that for non-third party filers, such as the patent applicant, their only options to choose within EFS are petitions and third party submissions for unregistered users. EFS users might not be familiar with the specific nomenclature and mistakenly file in the third party submissions option. Other than the FAQ section of the website and the EFS Quick Start Guide, he was also not aware of any additional resources from USPTO concerning submitting to the Program. One thing our project team was considering was an automated sorting Program within EFS that could be implemented for simple problems, such as missing documents. We asked him about the feasibility of such an automated Program. He stated that when they first designed the submission system, they had implemented a similar system that would not allow people to move forward with the submission if it was outside the statutory time window. However, the implementers were told that they have to let submitters file anyway, so now EFS only warns the submitter, instead of not allowing them to continue with the submission. He didn't understand the reasoning behind why those decisions were made. Perhaps if a time window indicator was included within EFS or PAIR, he thought it might be helpful for third party submitters. He was also supportive of making a dedicated site for third parties in order to make the submissions "easier to digest." Previously, the USPTO website had a simpler layout in his opinion, but it has since been changed. More examples of acceptable concise descriptions and evidence of publication would probably improve submissions.

In conclusion, the interviewee stated that in the future it would be beneficial if the USPTO could provide educational materials for all people to see, and also have them thoroughly read the materials before making a submission. He thought a good advertising route would be to put little "splashes" up on Google, trade journals, or websites such as Stack Exchange that explain the Program.

4.3.1.d Interview with a Manager

We interviewed a Supervisory Patent Examiner who gave feedback on a website unaffiliated with the USPTO that allows people to request or submit prior art. The interviewee commented that the purpose of the Program is to get prior art that examiners do not have access to with their databases. Therefore, it is not necessary to grant the public access to USPTO databases to improve this Program since examiners have the training to search USPTO databases, and are thus more likely achieve better search results from USPTO databases than a third party. The improvements to the Program, according to the interviewee, should rather focus on other aspects like making the online submissions system simpler, changing the fee structure to increase the number of prior art references that can be submitted for free, and making the public more aware of the Program.

The current electronic interface may be unsuitable for people who are not experts in the EFS system, which may be a cause for some of the improper submissions. Some adjustments to make the interface more user-friendly could remedy this. It was also suggested that third parties are confused or overwhelmed by the many forms they have to fill out. Modifying the help tools online (e.g. Quickstart Guides) can make the process more straightforward.

The number of improper submissions also relates to the fee structure in that a third party may neglect to resubmit an improper submission because he/she has gone over the limit of free submissions and does not want to pay a fee. In this case, good prior art is sacrificed. Increasing

the number of free submissions could increase the number of useful third party submissions.

The interviewee tied the fee system into advertising stating that the USPTO should advertise ways to participate in the Program fee-free. The interviewee stated that there is already advertising of the Program in existence from working with the non-affiliated website previously and on the USPTO website. This is not direct advertisement. The USPTO website does not contain information solely pertinent to the Program, and information that is present is not displayed upfront. While the external website may be a means of public outreach for external parties interested in promoting the Program, USPTO cannot be directly affiliated with the website, so the feasibility and the usefulness of this partnership may not be that significant.

Overall, the interviewee thinks the Program will undergo some changes in the future and the number of submissions will increase.

4.3.2 Interviews with Knowledgeable Third Parties

This section includes interviews with third parties knowledgeable about the Program. They are professionals in industry who are in some way connected and invested in the Program.

4.3.2.a Interview with Knowledgeable Industrial Professional #1

We interviewed a working professional whose work involves patent policy and who was one of the organizers of the P2P Program. A second interviewee was present, and this individual works in the company's legal department and oversees the prior art submissions at this particular company. These interviewees discussed what they liked and disliked about the Program and suggested some improvements.

The interviewees stated some reasons why people refrain from participating in the Program. One reason is that submitters lack the resources to submit, including funding. Another reason is that the third party does not see the pending patent application as an immediate threat or the party does not like the risk of having the submitted prior art be unsuccessful in overturning

the pending application. The interviewees then stated that the action of withholding the submission is risky because without the prior art on record, it makes appealing the application in the future more difficult. From these statements it seems there is a lack of knowledge about the Program among third parties. If third parties knew that up to three submissions are free and that there is an appeals process that makes submitting prior art beneficial to the submitter regardless of the outcome of the application, then maybe there would be an increase in participation.

The question of how to increase Program participation was addressed with regards to individuals and large corporations. To get more individual participation the interviewees suggested the USPTO seek news publicity. This will likely be an effective method because during P2P one of the interviewees said that there was a spike in participation when the Program was featured on the front page of a newspaper. It was also suggested that participation will increase if the USPTO is more transparent by publishing data on the Program and making the public aware when an application is "under fire." It was mentioned that participation can be increased within corporations by appointing individuals to specifically focus on encouraging participation and developing a strategy to maintain participation.

It was also mentioned that the educational community would be a good avenue to increase participation. Students at colleges and universities could participate in the Program to earn credits. This system was used during P2P at law and engineering schools, resulting in a slight increase in participation. Thus, including a similar method in this Program will likely be beneficial at increasing the number of submissions and knowledge of the Program.

Another aspect of P2P that the interviewees would like to see in this Program is a collaborative way to submit art. A forum that allows people to discuss which art is the best to

submit to an application may increase the usefulness of submissions. This idea was supported by evidence that P2P submissions were of slightly better quality.

These professionals also suggested allowing more freedom in the electronic submissions interface to input publication information for documents, especially for NPL. This corporation often received notice that their submissions were improper due to problems with publication evidence. This supported the data on the Program mentioned in Section 4.1.1 in which many submissions received at the USPTO were improper because of insufficient evidence of publication. The interviewees said that historically the USPTO has not been the best at finding NPL, so addressing problems in the Program tied to NPL can enrich the prior art available to examiners.

The interviewees liked many things about the current system. They liked the fast, cost-effective electronic submission method. They also thought the online reference materials (Quickstart guides and FAQs) were helpful. These materials can still be tailored to more efficiently answer submitters' questions by including written examples of descriptions of relevance and other components of third party submissions. They disliked the current fee structure, however, and the privity requirements surrounding submissions. These statements emphasize the negative effect of fees because if a large corporation with ample income dislikes having to pay fees for this Program, individuals and businesses with less financial resources may be even more put off by fees. Additionally, these interviewees disliked that examiners deem applications improper due to content that is not allowed to be provided by a third party. The professionals both thought that an offending statement should just be ignored by the examiner. This could cut down on the number of improper submissions.

After interviewing these two individuals they also provided us with two documents totaling 18 single-spaced pages. These documents made on behalf of their corporation included comments and suggestions on the USPTO final submission rules, called "Changes to Implement the Pre-Issuance Submissions by Third Parties Provision of the Leahy-Smith America Invents Act." These comments were significantly helpful in gaining a scope of public opinion regarding Program policies. From these documents, we omitted sections of suggestions that were already implemented or acknowledged by the USPTO. We then organized the remaining suggestions we felt were the most important and relevant to our project into appropriate sections. The results below are direct quotes from the documents, so the document was kept in its original tense, from the viewpoint of the corporation. Additionally, a follow-up email by the interviewee, regarding a main point that he wanted to emphasize, was also included.

Document 1- November 4, 2011

Marketing/Advertising

> We urge the Office to reach out to the University community to educate and encourage law, science, engineering and business students to participate in the Pre-Issuance submission process. Now that Pre-Issuance submission is a permanent part of the patent law, we believe Universities should be encouraged to include peer review of pending patent applications in their established curricula, improving the quality of issued patents and enhancing patent system transparency at the same time. Students have shown themselves to be excellent participants with a modest amount of patent training. They are working at the forefront of their respective arts, and are particularly receptive to use of social media and collaboration.[4]

Collaboration

> The Peer to Patent Program has demonstrated that the ability to collaborate among technical experts to identify and explain prior art significantly enhances the patent examination process. Experts can help each other come to a clearer understanding of the clamed invention or the state of the art at a particular time, facilitating identification of relevant prior art. Or, an expert

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[4] External corporation, 2011. Interview communication, 2013.

interested in a particular application may not be aware of the closest prior art, but may know a colleague or other expert to contact, or be able to identify a previously unknown expert through an appropriate collaboration tool. Such identified expert might have superior knowledge of art in the field. Similarly, an expert reviewing applications will be able to identify applications "flagged" by others through comments and art postings. A collaborative platform therefore provides not only an opportunity to discuss and collaboratively analyze applications in light of specific references, but perhaps more importantly provides an invaluable opportunity to create networks of experts to identify the closest prior art. The value of these networks is manifest by the results of the Peer to Patent Program, through which examiners were often provided references they would not otherwise have found, especially non-patent prior art. Experience from the successful Peer to Patent Program should be useful to the office in creating a system that will encourage collaboration and enhance examination. [5]

Web-based Platform

The Office recognizes the advantages of using good on-line submission systems, including efficiency and ease of use. The Office currently provides patent application information through a number of databases, including Public Patent Application Information Retrieval system (Public PAIR); Patent and Application Full-Text and Image Databases (PatFT and AppFT); and information regarding assignment of patents ("Assignments on the Web"). Public PAIR is an on-line system that includes image file wrappers and some information captured in dedicated fields, such as the group art unit, class/subclass, title, and inventors. PatFT and AppFT allow searching by many of the same fields as PAIR, as well as key word searching of the entire application (including claims), current assignee information, foreign priority information, related domestic application information, and more. The application data currently available to the public online should be sufficient to identify applications of interest. Additional features desirable for enabling a robust pre-issuance submission system should include: providing periodic feeds of information containing requested search results (e.g. RSS feeds); means for submitting prior art and comments; and a platform for collaboration.

If an on-line platform can be established initially using at least the keyword searching feature and assignee information from AppFT, the public should be able to identify and access applications of interest for further review. The public would then need some means to focus on applications of interest, without the need to visit the site and perform repeated, possibly complex searches. We therefore urge the Office to enable applicants to test and save searches and establish feeds, such as RSS email feeds, to provide periodic alerts identifying applications of interest as they become available for review and submission of prior art and commentary. [6]

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[5] External corporation, 2011. Interview communication, 2013.
[6] External corporation, 2011. Interview communication, 2013.

Any concerns the Office may have about treading on the province of private search tool providers should be minimized if the Office relies on its own existing search technology (such as keyword searching in AppFT). In areas where the Office may not have existing technology, the private sector should be able to assist. A number of private entities currently provide patent-related RSS services for users. Other private concerns have expertise creating platforms of the type needed for collaborative patent application review, such as social media providers. We suggest the Office consider partnering with such service providers to offer needed features the Office does not provide itself. For example, if a user obtains RSS feeds from a private company, the user should have the ability to access through a hyperlink the patent application on the Office web site where the user can submit art and commentary. The Office could also "outsource" a collaboration platform to a social media expert, and provide a link for submitting the art and comments that result from the collaborative effort, similar to the mechanism used by Peer to Patent. The Office should also allow a user to perform a search on AppFT and then automatically link to the tool for making an online submission for an identified application.[7]

Transparency

Perhaps the most important characteristic of a successful system for public submission of prior art is acceptance by the public community for which it is designed. This can only be achieved by ensuring transparency in the process of creating, operating, and modifying the system. The public should also have a role in designing and developing the system, to the extent practicable. We suggest the Office solicit public feedback, such as through panels and roundtables. The use of an on-line submission system for all patent applications will inevitably raise issues not encountered under the limited Peer to Patent Program. We urge the Office to establish and operate the web-based system in an open and transparent manner, encouraging input from the public regarding operability and usability, and providing comprehensive data on the effect of submissions through the system, such as whether claims have been amended or cancelled as a result of applying art submitted by the public, the type of art submitted (e.g., patent, online document, hardcopy, etc.), and whether art was submitted individually or through collaboration.[8]

Document 2- March 5, 2012

EFS and Software Features

Better still would be for the Office to build into EFS-Web a feature which automatically and immediately notifies a submitter when an identified application is no longer eligible to receive third party submissions, and prevents a submission

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[7] External corporation, 2011. Interview communication, 2013.
[8] External corporation, 2011. Interview communication, 2013.

outside a statutory timing window. Given that third party submitters are not necessarily intimately familiar with the patent system, such automation would enhance user experience and increase overall accuracy and efficiency. Alternatively, the Office should provide some reliable means for querying up-to-date status which is documented and self-authenticated. Additionally, PAIR/IFW could include status entry indicating the application is closed to further third party submissions. Such capabilities implemented in software would have the added advantage of automating a portion of the review step the Office proposes to insert. The patent home page of the Office's web site should also have a prominent link for Pre-Issuance submissions. [9]

Statement of Relevance

The Office has outlined examples of "best practices", which would presumably be considered compliant. It is also indicated that a "bare statement that the document is relevant does not amount to a meaningful concise description", but more clarity is required as to where the threshold level of compliance is. Below is shown a spectrum of various kinds of potential statements in differing degrees of detail (Figure 4.3.1). It would be instructive for the Office to respond to and further develop examples of this type to help potential submitters understand what is expected of them, with particular identification as to which of these statements would "amount to a bare statement that the document is relevant" or be otherwise insufficient to meet the relevance threshold. The Office might also consider developing a form including alternative acceptable styles indicating relevance. [10]

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[9] External corporation, 2012. Interview communication, 2013.
[10] External corporation, 2012. Interview communication, 2013.

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Sample statements of relevance.
See reference.
See reference page x.
See reference paragraph y on page x.

***
Reference discloses/may disclose the invention.
Reference discloses/may disclose [excerpt from claim preamble].
Reference discloses/may disclose the invention as claimed in at least
claim x.
Reference discloses/may disclose the invention as claimed in claims
x and y.
Reference discloses/may disclose element x of claim y at page z.
Reference discloses/may disclose aspects of elements w and x of
claim y at page z.
***
Reference A combined with Reference B discloses/may disclose the
invention.
Reference A combined with Reference B discloses/may disclose
[excerpt from claim preamble].
    . . .
Reference A discloses/may disclose element x, and Reference B
discloses elements y and z.
***
Compare fig x [or table] of reference with fig y [or table] of the
pending application.
Compare fig x [or table] of reference with claim y.
***
Term "Term1" used in the reference corresponds to Term "Term2" in
the pending application.
***
See attached claim chart.
```

Figure 4.3.1: Sample Statements of Relevance

Fees

In prior comments, the corporation has strongly urged that the implementation of the 122(e) remains open to collaboration, even in the event that the Office finds itself unable to provide a facility for collaboration in the first instance. The Office's comments are neutral on the question of collaboration, but this fee structure appears to have the effect of positively discouraging collaboration among third party submitters.

The Office's experience with the Peer-to-Patent Pilots is instructional here. In the early stages in the pilot, in response to fears that large numbers of prior art would be "dumped" on the Office, a limit of 10 references was set to avoid that occurrence. Very rarely was that limit reached. In a later-stage pilot, based on the experience of the initial pilot that a lower limit could easily be tolerated, the total limit was decreased to six. The published average number of references submitted per application has varied in the three to four range. Clearly there were not throngs of submitters waiting in the wings to deluge the Office with prior art, when there was no fee required, where applications eligible for submissions were more easily identified and submissions could be made in absolute anonymity.

The following alternative fee structure is proposed which is intended to balance the needs of the PTO to collect sufficient fees to support its third party

submissions work with the need for greater certainty and convenience among third party submitters:

- No fee required for the first two references on any application by <u>any</u> individual submitter for up to a cumulative total of six references from multiple submitters
- $180 fee required for the first Pre-Issuance submission on an application by a third party containing more than two, but ten or fewer total documents
- $180 fee required for any submission by a third party (of up to 10 docs) once a cumulative total of six references have been submitted by third parties against an application. [11]

Follow-up Email

The statement below is from a follow-up email to the group:

> When we ran pilots we created a web site that promoted collaboration among different third parties interested in finding prior art with respect to the same patent apps. So, one interested person might remember seeing prior art but not precisely where. Maybe the person recalls it originating at a large engineering school on the west coast and would so indicate on the collaborative web site. Prompted by that, others familiar with such universities might nose around, find the actual prior art, and bring it to the attention of the examiner. We actually saw similar collaborations happen that way during the pilots - not the norm mind you, but often enough - such that the quality of prior art that subsequently was sent to examiners might have been higher then and might be a reason why the rate examiners are rejecting in view of submitted prior art now is a bit lower. We advised the USPTO that their current implementation does not foster such collaboration, but should, and we were told they hoped to implement the collaborative aspects downstream (but no signs of such yet). Hope this makes sense. Glad to discuss if it does not. [12]

4.3.2.b Interview with Knowledgeable Industrial Professional #2

We interviewed an individual who was influential in the development of Ask Patents, a popular question and answer style website. The individual is associated with Stack Overflow, which is a precursor company of Stack Exchange, and is the largest Programming Question and Answer site in the world. The Director of the USPTO involved with Program implementation approached the individuals involved with Stack Overflow to set up a similar website that involved patents. His vision was to create a website that would have an unusual combination of

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[11] External corporation, 2012. Interview communication, 2013.
[12] External Communication, November 15, 2013.

resources and could make a positive difference in the world. The main goal of Ask Patents was to influence the patent process in a positive way. Ask Patents came online after the provisions in the AIA were created. The interviewee would meet with USPTO employees occasionally to discuss progress; however, there was no official way to exchange feedback. While creating Ask Patents, there were many resources at the interviewees' disposal. He certainly had the attention and interest of the USPTO (even though there was not a formal official relationship) and the recent changes under the AIA gave the developers of the site the means to influence and interject into the patent prosecution process. The site was designed with certain functions in mind. It allows participants to post either a patent application being considered by USPTO or a patent, and request assistance in searching for pertinent prior art. Individuals that want to ensure specific patent applications do not get issued can also request prior art in form of a question and answer. Additionally, individuals can ask questions about general patent processes. In making the website, the interviewee did not attempt to create a large pool of contributors who would submit prior art; he wanted people who specialize in certain fields to submit. When a good answer is given, it is "voted up", and users can gain points this way to unlock privileges on the site such as editing other answers. Ask Patents is helpful in finding art obscure to examiners, especially NPL, and can help support issuing a patent for an application that an examiner or the Ask Patents community cannot find prior art for. We also asked him if he was willing to provide links within the Ask Patents website that link back to USPTO resources and the submission interface. He said Ask Patents could link pages back to USPTO resources, and would be happy to make a page of links.

We also asked him various questions about the Program, such as reasons why people do and do not participate. He said many people do not participate because the process of finding and

submitting prior art is difficult and includes many steps. It is also unclear to sophisticated users whether they wish to submit in the USPTO file system. A common fear for litigators is that for an application with third party prior art, a patent would issue but with modified claims, and now there is record of prior art being considered in the file history. As such, litigators might prefer to keep the art "for good fight later", such as during a later prosecution, and not submit prior art before it becomes a patent through the Program. Other individuals do participate because they want to prevent bad patents from being issued. Issuance of bad patents can become a moral issue for some individuals, so the Program allows an outlet for these individuals to channel all of their energy.

In order to increase user participation, the interviewee thought the process of making a submission could be streamlined, and that sample letters of both concise descriptions of relevance that are written proper and improper should be released for third parties to read. He also mentioned someone from another university who was running a team that picked patent applications they thought shouldn't get issued, and had used Ask Patents to make a third party submission. This other individual made a template to submit prior art to the USPTO. It was suggested it might be useful to release that template so other third parties could utilize it in the future.

As far as major improvements to the Program, he thinks that the USPTO should be more transparent about the information they release regarding the Program. One concrete suggestion was for USPTO to publish a list of the approximately 1,000 applications for which a submission has been made since Program implementation. This information is already public through Public PAIR but there is no tool to search specifically for those applications. If USPTO published the list in Excel, then the interviewee's team could pull the submission PDFs using their "crawlers"

and provide the submissions to any individual wishing to analyze them. His theory is that if the community knows how people are currently using the Program, then the public will be more capable of understanding of what aspects of the Program are working and what areas need improvement.

4.4 Patent Examiner Focus Group

The focus group was conducted with four examiners who had looked at third party submissions, to obtain more detailed information about certain aspects of the Program. The protocol for the focus group is located in Appendix I and the results are in Appendix J.

The group's overall opinion of the Program was unanimously positive. While the examiners were in favor of the Program in general, they had input about what aspects they found most helpful and what aspects could be improved. The content and format of submissions, impact of submissions, and functioning of the Program were the general topics discussed.

Among the formatting related aspects of the submissions the group discussed claim mapping in a table. Some of the examiners were highly in favor of this format for submissions. Currently there is no required format for submissions but if one is created in the future this is a good potential option. One examiner also noted that pin citations were helpful so this is another potentially good requirement for a standard submission format. The length of concise descriptions was also discussed. The examiners stated that they received concise descriptions ranging from a single paragraph to twenty-eight pages. They went on to say that both short and lengthy concise descriptions were helpful and there was no need to establish a page limit on them. Overall, the examiners generally liked how submissions were presented.

With regards to the content of submissions, the examiners made several positive statements. They mentioned that the submissions usually contained relevant art and detailed

statements of relevance. They also mentioned that submissions often contain NPL and foreign language documents that they would not have found using their usual search methods. If this information is provided to third party submitters they may be more apt to search for this kind of art and diversify the pool of references available to examiners. The translations included with the foreign references were met with considerable praise from one examiner who stated that they were not only extremely helpful but also vital to using this type of reference. Another examiner expressed that they were unsatisfied when translations only partially translate a foreign reference. These thoughts on foreign references suggest that it may be beneficial if the importance of translations is stressed to third party submitters so heedfulness is taken towards the translations. Several examiners also mentioned that the submissions did not directly relate to the claims but rather the inventive concept in general. The examiners preferred submissions that more clearly stated how the references related to claims in the statement of relevance. Perhaps the USPTO can provide guidelines as to how submitters can show how art relates to claims to ensure that this connection is presented clearly to examiners. It was also mentioned that some of the art received was redundant in that the examiner already found it, or the art had the same impact on the application as the prior art the examiner found himself/herself. These content-related statements gave insight into what makes submissions useful to an examiner.

One examiner stated that third party submissions increase quality of patents but inevitably hurt productivity since they take time to review. The submissions did, however, decrease the amount of time spent searching for prior art by giving the examiner an idea of where to focus their search. For example, one person mentioned that the submissions gave initial guidance of how to conduct the search, which was especially valuable when there was no IDS. It was also mentioned that submissions helped by giving examiners a better understanding of

inventions they were not familiar with, and an idea of what prior art existed that was related to the invention. The concise description rather than the full reference seemed to be more favored by the examiners in this group. Although many of them mentioned that they still go through the reference, the concise description allowed them to make decisions of whether or not to use a reference without reading the entire document. They gave the examiner a good understanding of the reference and pointed out information in the reference that may have been hard to find otherwise. The concise descriptions helped examiners focus their search by introducing the kind of language used with a particular invention thereby providing key words to use in the search process. The keywords provided were sometimes different than those in the claims. This denotes a way in which third party submissions broaden the range of art an examiner finds in his or her search. These comments support another comment that was stated explicitly by an examiner: "The submissions were helpful in the search process but not so much in rejecting claims." The discussion of how prior art is useful to examiners revealed that the search process is the part of the examination process that is most affected by third party submissions and that concise descriptions are a pivotal part of submissions.

The Program may likely be increasing efficiency at the USPTO because prior art search is one of the most time consuming steps of the process (see p. 1). Since concise descriptions were proven to be very helpful during this focus group it is important that the prior art submissions process be designed to ensure quality concise descriptions are submitted. This can mean setting up the EFS interface to force submitters to enter useful information in their concise descriptions, setting requirements for concise descriptions, or providing examples of quality concise descriptions to third party submitters.

We also discussed Positives and negatives about how the Program is currently functioning and ways the USPTO can improve. When asked about the notification of third party submissions the group stated that they were notified fairly sufficiently with a note in the IDS tab in eDAN and by receiving a copy of a letter that is sent to the applicant notifying them of third party submissions. One of the examiners said that the letter to the applicant is an aspect of the Program that slows down the review process because an examiner cannot make a decision on an application until this letter reaches the applicant. Only one member of the group had this complaint so the letter may not have a significant impact on efficiency but if the USPTO is diligent at sending out these letters it can only speed up the process. One improvement this group thought would be beneficial to the notification system was a separate tab in eDAN for third party submissions. It was also mentioned that PALM changed the doc code of third party submissions to IDS3P which made them more distinguishable from other documents in an application. While there were not too many complaints about the notification system one of the examiners stated that examiners do not necessarily know a third party submission is there.

The examiners shared that there is no official training session but most of them felt that they had sufficient knowledge on the Program. One member of the group said that examiners learn about the Program briefly during basic examiner training upon arrival at the USPTO. Another member said that examiners often learn about the Program by discovering the documents in eDAN and going through the process firsthand or by hearing about it from others. To make up for lack of formal training one member recommended that a comprehensive webpage or SharePoint™ site about the Program be created. Providing a more formal training can ensure that all examiners are knowledgeable about the Program and thus third party submissions will be used more efficiently.

The group also shared how the timeliness of submissions has an effect on whether or not examiners use submissions. One examiner said the earlier submissions are received the more beneficial they will be to the examiner because he or she will have access to all available prior art before making a decision on the application. This can lead to better decisions from the examiner and will also not slow down the examination process as much. This same group member stated that third party submissions received after a FAOM has been issued tend to stall the examination process instead of make it more efficient. This could be because the examiner has already done a complete search of prior art and has likely found better art without initial guidance from the third party submissions, as previously mentioned during the focus group. This renders the submission fairly useless but the examiner is required to review it regardless. Submissions sent after an Office Action are also more likely to be received after the claims of an application have been amended. This means they may not be relevant to the new claims and not helpful to the examiner. Encouraging submitters to adhere to the timeframe for submission on applications and to check for amended claims can better ensure that third party submissions are timely and relevant. An examiner did mention, however, that the ability to cite submissions on an IDS and still make an Office Action causes later submissions to not slow down the examination process as often.

The examiners concluded the focus group on a positive note. The group expressed that overall the way the Program is currently functioning is examiner friendly and helpful. They also expressed praise for the Program by saying that they would like to see more public use. In conclusion, there are some specific aspects of the Program that can be improved but in the more holistic sense the Program is an asset to examiners.

4.5 EFS Mock Submission

This section contains our notes and information about how we completed a mock

submission using the EFS system, and areas we saw that needed improvement.

Public PAIR

Public Patent Application Information Retrieval system (Public PAIR) is one of the

resources that the general public can use in order to search for published patent applications. The

first problem we found with PAIR is that you can only search for limited fields, such as the

application number, publication number, or patent number. In order to find the patent

application, you have to know the number beforehand – there is no capability for keyword

searching. Public PAIR lists the earliest publication date, however, it does not explicitly state if

the application is open or closed for submission, or list a six month end date projection. It does

provide information on the status of the application, such as if an action has been mailed out by

the examiner. Public PAIR is very beneficial in the sense that it includes image file wrapper

(IFW) files for every document included in the examination, such as IDS Statements, previous

third party submissions, and cited reference lists by the examiner.

AppFT- Patent Application Full Text and Image Database

Patent Application Full-Text and Image Database (AppFT) is another search tool that

can be used to find a patent application. The user can search for more terms such as words in the

title and abstract; however, the user can't filter your search for certain Technology Centers. This

tool also does not explicitly list the publication date of the patent application; it lists a date in the

top left corner, but it does not say what the date specifically refers to. AppFT, unlike Public

PAIR, does not include IFW files, which is its main disadvantage. It only includes a one page

statement consisting of the claims and a description. There is no ability to save searches, so users

have to search again each time they go to the resource in order to pull up the specific application.

There are also no capabilities to have RSS Email feeds that would notify users when new applications in their specified search area have been added to the system.

With both of these tools, the user cannot place a filter that allows only submissions in the statutory time window to show up. This means that the user has to search for the patent application, open up the page for the patent application, and then look at the date and verify yourself if it is in the statutory time-frame. It would be nice if this step could be automated and eliminated.

Submission Resources

The size of links to EFS and surrounding sites on the homepage should be larger to make the USPTO website more user-friendly for a low cost. It was also difficult to find the Quick Start Guide and FAQ's section for third party submissions without explicitly writing it in the search box at the USPTO main page website. One of the problems is that Pre-Issuance Submissions does not have a dedicated tab or micro-site within the patents section of the website. A lot of the third party resources are scattered throughout the site. For instance, the FAQ section is under the AIA main page, and the Quick Start Guide is in a separate location under the EFS-Web submission guides web page. It would be better if all the resources were consolidated into one spot.

Quick-Start Guide

The guide was overall very helpful and accurate. We would not significantly change anything within the guide.

EFS Submission Interface

We first noticed that a link that says "Quick Start Guide" in large lettering at top and bottom of EFS pages should be included to make it easily accessible to website users.

When we first went into EFS Web, we entered a patent application that had a notice of allowance mailed already and was published for more than six months. The application was therefore outside the statutory time window for submissions. When we tried to proceed, a warning message popped up and stated the fact that a notice of allowance had been mailed out and the application had been published for more than six months. It stated that the submitter should check and see if the submission is timely. Even though this warning message exists, the USPTO is still getting submissions that are untimely. This means that either the publication date is not easily visible to the submitter or the submitter does not understand the statute regarding timing. It would be beneficial to the USPTO to prevent the user from making a third party submission to the stated patent application.

Once the "third party submission" bubble is chosen, a link to the Quick Start Guide should be included. We were also unsure of what the kind code was. The Quick Start Guide explained what it was and told us that the kind code was an optional field; however, it would help to either put "see Quick Start Guide" next to "kind code" or provide more information on the page about what a kind code is. We also couldn't go back to edit fields within the "application data" tab. For instance, if we found a mistake in the author title we could not edit it. We had to cancel the existing information and then re-type it in. This is just a small annoying aspect of the Program. EFS also does not verify US Patent Applications with their database to make sure it exists and the number was not entered with errors. They should verify this if possible.

We also noticed that the submission interface could be improved. For instance, the tab where the users enter data about each document submitted is separate from the tab where they upload additional supporting documents. We think that these two tabs should be combined, and

the document information and upload button should be both located next to each other in the same section. As of now it is unclear what documents should be uploaded and when (such as evidence of publication and translation of foreign reference). For instance, if a NPL Reference is stated, the upload window for the concise description should be included next to it. The system should also prevent the submitter from moving any further in the application until either the text window for the concise description contained text, or a document containing the concise description was uploaded next to the Reference Information. Since certain documents such as English Translations and Evidence of Publication are optional, upload windows should pop up next to the Non Patent Literature information, contingent upon having the "translation attached" or "evidence of publication attached" statements checked.

At the end of the submission there was an indicator that stated "No errors/warning(s)/error(s)", which is good. However, this message may not have the capability to take certain errors into account. For instance, we entered a patent number under the "US Patents" section; however, we did not include text in the concise description box or upload any concise descriptions. Since a concise description is required for every listed document, what we did was an obvious error. Even so, there was no warning of the error. The EFS system should be capable of recognizing these errors, since a large number of non-compliant submissions did not include concise descriptions for every reference. This could be due to the fact that the document list page and the upload page are in separate tabs – if they were combined, the capability to recognize missing documents would certainly be easier. It would be good if in the future if the system did not even allow submissions with required components missing. As of now it is very easy to leave required documents out.

We were also not sure if the submissions get entered into the system before fees are paid. The paid fees tab should be before the confirm and submit tab, so the submitter has to fill out all necessary credit card or account information to actually have the submission entered into the EFS system.

5.0 Conclusions

This section contains the conclusions we reached through our research and analysis of information gathered on-site. We summarized the positive aspects of the Program, and areas that need improvement.

5.1 Positive Aspects

There were many positive aspects of the Program. There were 1,204 total third party submissions made from the start of the Program in September 2012 until October 25, 2013. We found in our analysis that according to the opinion of a major Program implementer, the participation was four to five times more than expected in the first year. We also found that a significant portion of the prior art references in proper submissions was NPL, which shows that the Program was successful in effectively finding resources that may not be readily available to patent examiners (through traditional USPTO search tools compared to what a third party has access to).

From the existing USPTO survey, about half of the examiners thought the third party submissions were useful from a moderate to great extent, and half of responders found the concise description was moderately to greatly helpful in considering the submission. Of the examiners who felt the concise explanation was in this moderately to greatly helpful category, the majority of comments made indicated the concise explanations were specific, detailed, and mapped the claim language to the reference; for example, "the third party submission mapped the claim language to the pertinent teachings in each of the cited documents, which helped me to determine the relevant art. The descriptions also reaffirmed my view on the cited documents I had previously considered." Additionally, around half of examiners found the submission saved them time. Of the examiners who said it saved time, the majority of the comments made said it

directed them to keywords and included helpful claim charts. For example, "[it] directed me to what keywords I should expect and search for while reading and whether the reference warranted a skim read or a detailed reading", and "the comparison chart of the one limitation by one limitation between the claimed invention and the prior art citation saves time". We found that when the concise explanation was considered greatly helpful, the submission was two times more likely to be moderately to greatly useful. We also found it is 1.5 times more likely for the submission to be moderately to greatly useful when the concise explanation saved the examiner time.

The EFS submission interface also had some positive aspects. During our mock submission, when we attempted to make a submission to a patent application that was outside of the statutory time window, a warning message appeared. It stated that a notice of allowance had been mailed out and the application had been published for more than six month, and that the submitter should check and see if the submission is timely. Warning messages such as the one described above were very helpful and ensured that we made minimal mistakes.

The USPTO has also done a decent amount of advertising for the Program. During the implementation of the AIA, the USPTO hosted "roadshows" to promote various Programs. The roadshows took place at many locations, including a public library in Ft. Lauderdale and the New York City public library. The audience at the roadshows included the general public, inventors, and attorneys. The USPTO also has press releases and speeches about the AIA and Pre-Issuance Submissions under the AIA section of the web page. Additionally, the USPTO has helpful information on the website, such as the EFS Web Quick-Start Guides and FAQ's section for Pre-Issuance Submissions.

The USPTO is also collaborating with external websites such as Ask Patents. The main goal of Ask Patents is to find prior art for overly broad US patent applications before they become issued patents. The site was designed with certain functions in mind. It allows participants to post either a patent application being considered by USPTO or a patent, and request prior art for it in form of a question and answer forum. Individuals can also ask questions about general patent processes. Each question is tagged with certain subject areas, so users of the website can search for questions by each tag. When a good answer is given, it is "voted up", and users can gain points this way to unlock privileges on the site such as editing other answers. Ask Patents is helpful in finding art obscure to examiners, especially NPL. So far, Ask Patents is an excellent attempt to find prior art for patent applications.

5.2 Areas of Needed Improvement

In our analysis of the Program we also found that there were aspects that in need of improvement.

Internal Processes

Within internal processes at the USPTO, there are inefficiencies that could be addressed. One of our largest concerns was the validity of information being collected on usage of the Program. While looking at prior documentation, we ran into several issues with duplicated entries and incorrect information entered into the system concerning demographics of the submission. We also had trouble understanding the flow of information from the time the submission is entered into the system, to the time figures on Program usage are reported to directors. The process of extracting demographic information from submissions was very labor intensive, and several individuals were involved in the data collection and analysis process. Errors in reports on collected data could be skewing statistics on summaries of Program usage.

As of now, only thirteen percent of the third party art submitted through the Program has been used by an examiner when they reach an office action on a patent application. From an interview with a technology center director we know the goal for usage was around twenty percent. While there will always be some statistical error in calculating the percent usage, we found there was significant need for improvement concerning usage by patent examiners.

From our interview with an SPE, we know that the daily report regarding the number and content of third party submissions is generated from EFS; this report is distributed by email to POC's who forward the submissions onto the appropriate technology center. Although this current process is simple, it would be better if a system was created to send individual notifications concerning submissions to the appropriate technology center so that employees did not need to check each day for any new submissions.

One pattern we had seen from our focus group is the need for an improved method of notifying the examiners when a third party submission was submitted for an application under their review. We utilized time during the focus group to delve deeper into this problem, and found that unless they were specifically searching for the third party submission, eDAN does not easily notify the examiner of any third party submission.

Third Party Resources and Web Page

We investigated patent application search tools that third parties would use. The USPTO currently provides patent application information through Public PAIR and AppFT. We found multiple limitations with these systems. The first problem we found with PAIR is that you can only search for limited fields. In order to find the patent application, you have to know the number beforehand; there is no capability for keyword searching. Public PAIR lists the earliest publication date; however, it does not explicitly state if the application is open or closed for

submission, or list a six month end date projection. Regarding AppFT, you can search for more terms such as words in the title and abstract. However, this tool also does not explicitly list the publication date of the patent application. AppFT, unlike Public PAIR, does not include IFW files, which is its main disadvantage.

With both databases, you have to search for the patent application, open up the page for the patent application, and then look at the date and verify yourself if it is in the statutory time-frame, which is very inefficient. There is also no ability to save searches, so users have to search every time they use the resource in order to pull up a specific application. Currently, the public does not have any means to focus on applications of interest without the need to visit the site and perform repeated, possibly complex searches. There are also no capabilities to have RSS email feeds that would notify users when new applications in their specified search area have been added to the system.

Currently, all of the third party resources published by the USPTO *are* located centrally within the website under a "Pre-Issuance Submissions" section; however, navigation to this section requires users to sift through an extensive series of links. This webpage does not show up in a general search field of "Pre-Issuance Submission", so navigation through these links is the only way to reach this section. People who visit the website must go to the AIA page advertised at the bottom, click on "Implementation Information", then click on "Patent Examination", and finally click on "Pre-Issuance Submissions", which is a small link listed along with eleven other links. When "Pre-Issuance Submission" was entered into the search field of the website, both the Quick Start Guide and FAQ resources appeared in links to separate sections of the website, and not one link in one central location. The Quick Start Guide was located under the EFS section of the website and the FAQ's were located under the AIA Section. Although the USPTO has also

done a good amount of advertising for the Program, none of the advertisement content, such as press releases and speeches concerning the Program, is located in a central location within the website under the "Pre-Issuance Submissions" Section. In short, a major problem for third parties is that many resources are scattered within the USPTO website, and the only "Pre-Issuance Submissions" section of the website that *did* contain most of the resources did not appear as a search result; the only way to navigate to it was through a set of previous links.

Educational Content

As stated previously, the USPTO already has helpful information for third parties on the website, such as the EFS Web Quick-Start Guides and FAQ's section for Pre-Issuance Submissions. However, the USPTO is still having problems with improper submissions, and the usage rate of submissions by examiners is low. The largest reason for improper submissions involves problems with the concise description. Current resources for third parties are also vague with respect to what the USPTO accepts as evidence of publication. Additionally, most of the comments from the examiner survey were about the concise description, specifically the fact that it was not concisely detailed, was too general and did not address every element of the claims, or was not clearly relevant to the claimed invention. One of the largest suggestions was to require mapping the reference to claim languages, for example, "I would request that applicants clearly explain how the teachings of the cited reference are tied to the language of the claims rather than simply providing a general statement as to the contents of the cited reference."

The only way to remedy these problems are with more detailed and specific resources; however, it is clear that current resources are insufficient to help third parties submit properly, and also submit quality prior art and concise descriptions of relevance.

Concise descriptions of relevance are deemed "improper" by the USPTO for various reasons. We received PowerPoint® slides from a presentation given to various USPTO employees who determined compliance of submissions as part of their job. The presentation included information on the concise description, such as the fact that it can be in multiple formats, including a narrative description pointing out relevant figures and paragraphs, and a claim chart mapping the document to different claim elements. It stated that the concise description must not include proposed rejections of the claims or arguments related to an Office Action. It stated that it cannot be a bare statement of relevance, it cannot be an annotated copy of the document, and it cannot be mere paragraphs/letters in opposition to a general class of technology. It also provided definitions to determine if the description is "not concise."

In contrast, resources for third parties, such as the FAQ's section of the website did not include as much information about compliant and non-compliant concise descriptions, which is a significant problem. The FAQ's only gives two examples of compliant and non-compliant descriptions that only address the "proposed rejections of the claims" issue; one is in narrative format and one is in claim-chart format. It does not address or give examples of descriptions that are bare statements, and descriptions that are "not concise". The USPTO also provides insufficient information on what they accept as evidence of publication. Merely stating "such evidence may be in the form of affidavits, declarations, or any other appropriate format" may be confusing and not specific to third parties that are not well-versed in law terminology. There is much more information regarding guidelines of the concise description in the Final Rule and Regulations, which was published in the Federal Register on July 17, 2012, and is publicly available on the USPTO website. However, the document is twenty-six pages in total and the

concise description guidelines do not appear until page seven. It seems very cumbersome and confusing for third parties to go through this document in alternative to the FAQ's.

EFS Submission Interface

Another aspect of the Program we analyzed was the submission interface, and determined the ease of use. The USPTO did not have the funds to make a new submissions page designed specifically for novice users who are not experts in patent affairs, so they instead recycled an older online interface.

We found several limitations with the submission interface. Even though a warning message appeared when we tried to submit to a patent application that was outside the statutory time window, the USPTO is still getting submissions that are untimely. This means that either the publication date is not easily visible to the submitter, or the submitter does not understand the statute regarding timing. We also couldn't go back to edit fields within the "application data" tab. According to the Quick Start Guide, EFS does not currently verify US Patent Applications with their internal database to make sure it exists.

We also noticed some major limitations that do not explicitly take user error into account. For instance, the tab where the users enter data about each document submitted is separate from the tab where they upload additional supporting documents. It is unclear what documents should be uploaded and when. At the end of the submission there was an indicator that stated "No errors/warning(s)/error(s)". However, this message may not have the capability to take certain errors into account. Currently, the "pay fees" tab is after the "submit" tab, so we were also not sure if the submissions get entered into the system before fees are paid. If so, it is possible there could be a number of submissions made with no appropriate fees associated with it.

Collaboration Tools

One of the largest problems we saw was the fact that the implementation of the current Program does not encourage collaboration among experts in technological fields. Currently, Ask Patents is a great resource for people searching for prior art, but it does not have many capabilities for users to collaborate on submitting to a certain patent application. According to one interviewee, one of the reasons for success of the previous P2P Program was its demonstrated ability to enable collaboration among technical experts. A collaborative platform provides not only an opportunity to discuss and collaboratively analyze applications in light of specific references, but perhaps more importantly provides an invaluable opportunity to create networks of experts to identify the closest prior art.

The P2P Program was not hosted by the USPTO, but was run from the New York Law School with an externally developed website and submission interface. Peer reviewers could sign up and create a profile through the website. They could then comment on patent applications that were posted to the website. Electronic notifications were sent to interested reviewers who had identified their applications of interest. Reviewers could then invite more expert reviewers to participate. Next, the reviewers built a knowledge base of prior art and comments, then the prior art references were rated. The "top ten" references were then sent to the patent examiner for consideration. The website had many great functions and utilities. Users could go in depth and discuss certain claims of the invention, and submit prior art that was relevant to the appropriate claims. Users could choose to receive email updates on recent activity related to certain patent applications, and this option was very customizable. Compared with the P2P Pilot Program, the implementation and fee structure of the Pre-Issuance Submissions Program, as well as current tools such as Ask Patents, do not seem to foster and encourage collaboration between third parties.

Transparency

A common theme from our external interviews is the fact that the USPTO is not transparent with regard to statistical information on the Program. The only information displayed on the USPTO website is the number of third party submissions made per month since the implementation of the Program. Although all of the third party submissions are publicly available through Public PAIR, there is no capability to specifically search for them or filter out applications that have had third party submissions. If the system that collected and displayed demographic information was improved, then the public could be more informed, leading to improved external relations to a more educated audience.

6.0 Recommendations

Our main deliverable to the USPTO is a list of recommendations aimed at improving the Pre-Issuance Submissions Program. However, we have never defined what we mean by "improving" the Program. Thus, we define the Program as improved when the following objectives within the USPTO are completed:

- User participation in the Program is steadily increased,

- The submission process becomes easier,

- The concise descriptions of the submissions are overall improved,

- And, the prior art submitted is of overall good quality and relevant to the claimed invention.

To make all of these things possible, we propose the following list of recommendations, which will provide the USPTO with the ability to make more informed decisions about the Program's future. While we understand that the USPTO has certain constraints in terms of funding and implementation, we feel it is appropriate to include all of our possible recommendations.

Internal Processes

The first problem to address would be a major overhaul on how demographics about Program usage are collected. Right now the employees involved with collecting data about the Program are juggling other responsibilities, so it would be better if an employee had dedicated time to focus specifically on data collection, and not worry about other responsibilities during that allotted time. The process used to collect this information would also need a major overhaul. While we understand this improvement would be very costly and time consuming, we believe a streamlined data collection system would make the Program more efficient. The individuals would spend less time laboring on collecting the information, so they could return to their other duties more quickly. Numerical figures about Program usage could be collected more quickly

and more accurately. We understand this is technologically challenging because information about the submissions are in Image File Wrapper (IFW) format, which is similar to a PDF format, so numbers and text cannot be automatically extracted from the document. Instead, employees have to view each application themselves to extract information. If the process was automated, the margin of error would also be decreased, and USPTO could get a better understanding on usage of the Program.

More technologically challenging advancements involve notification to employees about a submission. Although the process of looking at the daily report from EFS and forwarding the information on to the correct technology center is not too difficult, it would be beneficial if the process could be automated so that individual notifications are forwarded automatically to the correct personnel. Additionally, we found that improving notification to the examiner in eDAN through a notification or a specific third party tab would help the examiner know if/when a third party submission was made to the patent application they were reviewing. We also think that a specific training session on how the submission appears within eDAN and how to properly address the application would be helpful to examiners.

Third Party Resources and Dedicated Web Page

We have developed recommendations to improve the patent application search tools used by third parties, which are Public PAIR and AppFt. Additional features desirable for these resources include enabling applicants to test and save searches and establishing RSS email feeds that can provide periodic alerts identifying applications of interest as they become available for third party submissions. The public would then have means to focus on applications of interest without the need to visit the site and perform repeated searches. It would be beneficial if a feature was built into these search tools which automatically and

immediately notifies a submitter when a saved application of interest is no longer eligible to receive third party submissions. The USPTO should also allow a user to perform a search on AppFT and/or Public PAIR and then automatically link to the EFS third party submission page to make a submission. These search tools should also indicate the date of publication more clearly, and if possible, a window that states if the application is still open for a third party submission. One further suggestion is to combine the advantages of each search tool; users should be able to search multiple fields and keywords, such as in AppFT, yet also be able to pull up IFW files from their searches, as in Public PAIR.

While a Pre-Issuance Submissions section is included in the AIA section of the USPTO website, it is difficult to navigate to, and gathering specific information without having to use the search function on the website is very challenging. We therefore recommend that the USPTO design a microsite specifically for Pre-Issuance Submissions. The website tab or link should be clearly visible within the Patents and AIA sections of the website, and it should be the first link to appear in the search results when "Pre-Issuance submission" is searched for. Providing the public with a microsite dedicated specifically to Pre-Issuance Submissions will create an area where all concerns and questions can be answered, and resources specifically to the Program can be accessed.

The microsite should include multiple tabs, covering all of the content the USPTO has so far. We developed this proposed microsite design, located in Appendix K. The "About" tab would include general information about the Program, the "About AIA" tab would include relevant information about the implementation of AIA and how it relates to Pre-Issuance Submissions, and the "Statistics tab would provide information to third parties on certain Program demographics, such as examiner usage rates, submissions per month, percentage of

proper submissions, and more. The next tab would be "Submitting to USPTO", which should include detailed information on patent application search tools, timing of submissions, required content, and how to submit. This tab should link to the actual EFS submission page. The "Quick Start Guide" tab should include links to the existing EFS Quick Start Guide, the "FAQ's and Help" tab should include the current FAQ section that the USPTO developed, and the "Dos and Don't's" tab should include more examples of compliant and non-compliant concise descriptions. The "USPTO Resources" tab should include links for patent application search tools, such as Public PAIR and AppFT, and also press releases, speeches, roadshow slides, or any other advertisement content associated with the Program, and finally, a "Contact Us" tab. In short, if all the resources were combined into one central place, the submitter could be well-informed when going through the submission process.

Advertisement

Along with making press releases, speeches, and other current advertisements more visible through the "USPTO Resources" section of the Pre-Issuance Submissions microsite, USPTO should explore other areas of advertisement. While USPTO does utilize social media outlets to alert followers about many different topics of interest, USPTO could post information specifically about the Program to increase awareness to Facebook and Twitter followers. On the external USPTO webpage, stories about the Program, and the changes the Program has undergone since the idea first started could be featured on the rotating news banner so the public can see the growth and potential of the Program, and how they can become involved. Additionally, we suggest USPTO reach out the university community to educate and encourage law, science, engineering, and business students to participate in the process (one interviewee even suggested students earn academic credit for participating). These students are at the

forefront of their respective fields, and a generation already accustomed to daily internet and social media usage, so this is a new population USPTO could gain information from. When working with external companies with interest in the Program, it could be beneficial if those outside parties could post reference links back to the USPTO microsite and resource pages, so if a public member came across the resources on that external public website, they could tap into USPTO assistance when going through the submission process.

Educational Content

The only way to provide the examiners with improved concise descriptions and third party submissions in general is to provide submitters with more detailed and specific resources. Specifically, the USPTO should develop more examples of concise descriptions to help potential submitters understand what is expected of them. Although the USPTO has examples in the FAQ's that cover the issue of "statements regarding patentability", additional examples should include identification as to which statements would be " a bare statement of relevance", and the guidelines for when the concise description is determined to be "not concise."

One of the largest suggestions from examiners in the survey was to require submitters to map relevant portions of the references to the claim language. In a basic sense, this means that submitters should be more specific when explaining which sections of the references are relevant to the claims in the patent application. This is most effectively done with a claim chart that lists each of the relevant claims in order and how the reference is relevant to the limitations of each claim. The examiners in our focus group also stated that the claim charts were helpful. We therefore recommend that the USPTO encourage third parties to map specific portions of the references to the claims, and not just provide more general statements of how the reference is relevant.

The USPTO should also provide more examples of what they accept for "evidence of publication", and not just state "in the form of affidavits and declarations." This could be beneficial to third parties that are not familiar with legal terms or specific types of documents.

User-Friendly Submission Interface

It would be beneficial if the EFS submission interface prevented a submission from being made outside the statutory timing window. If this was implemented in the software, it would automate a portion of the review step.

We also noticed some other ways that the submission interface could be improved. Screenshots of our proposed interface design is located in Appendix K.2. It would be advantageous if users were allowed to edit certain text fields within EFS instead of having to erase the information and re-type it back in. We recommend that EFS also verify US Patent Applications with their database to make sure it exists, and to make sure the number was not entered with errors.

We think the tab where the users enter data about each document submitted should be combined with the tab where they upload additional supporting documents to increase efficiency of the submission process. The window for supplying document information and the document upload button should be both located next to each other in the same section. The system should also prevent the submitter from moving any further in the application until either the text window for the concise description contained text, or a document containing the concise description was uploaded next to the Reference Information (since these are required documents). Since certain documents such as English Translations and Evidence of Publication are optional, upload windows should also pop up next to the NPL information, contingent upon having the "translation attached" or "evidence of publication attached" statements checked.

At the end of the submission there was an indicator that stated "No errors/warning(s)/error(s)", which is good. However, this message may not have the capability to take certain errors into account. The EFS system should be capable of recognizing certain errors, such as missing required documents, since a large number of non-compliant submissions did not include concise descriptions for every document. Again, if the document information and document submission tabs were combine the capability of EFS to recognize missing documents would certainly be easier.

We were also not sure if the submissions get entered into the system before fees are paid. The paid fees tab should be located before the confirm and submit tab, so the submitter has to fill out all necessary credit card or account information to actually have the submission entered into the EFS system.

Collaboration Tools

The advantage of the P2P Program, that is not evident with the Pre-Issuance Program, was that it demonstrated that the ability to collaborate among technical experts to identify and explain prior art significantly enhances the patent examination process. We therefore recommend that the USPTO should develop a forum or tool for third party collaboration, similar to the mechanism used by P2P, as stated from an interviewee's suggestions:

> Experts can help each other come to a clearer understanding of the clamed invention or the state of the art at a particular time, facilitating identification of relevant prior art. Or, an expert interested in a particular application may not be aware of the closest prior art, but may know a colleague or other expert to contact, or be able to identify a previously unknown expert through an appropriate collaboration tool. Such identified expert might have superior knowledge of art in the field. Similarly, an expert reviewing applications will be able to identify applications "flagged" by others through comments and art postings.[13]

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[13] External communication, 2013.

This collaboration tool should have similar capabilities to the P2P Program. Users should be able could sign up and create a profile through the website, comment on patent applications that were posted to the website, receive email updates on recent activity related to certain patent applications, and receive RSS feeds of new patent applications that meet desired criteria and are available for review. The statutory time window should also be clearly displayed next to patent applications. Users should be able to invite more expert reviewers that they knew of to participate. Next, the users need the capability to submit prior art documents and the corresponding concise description, and have the ability to make comments to other concise descriptions and rate other prior art references.

Instead of developing this collaboration tool internally and using internal funding and resources, the USPTO should "outsource" the development to companies that are willing to help. Developers from websites such as Ask Patents and Stack Exchange may be interested in expanding the capabilities of the current website and developing new tools that help in their mission to improve the patent prosecution process. The collaboration tool could be completely developed externally; however, the USPTO will have to get involved with issues over how submissions on the collaboration website link to the EFS Submission system. There may also be other hurdles to get over, such as who will be emailed in the case of a non-compliant submission. Perhaps reasons for non-compliance can be posted to the submission within the collaboration website.

In order for this tool to be effectively implemented, the current fee structure of the Program should be changed. If peer reviewers worked together to submit prior art, it is unclear who should pay for the submission. Therefore, we urge the USPTO to consider having no fee required for a cumulative total of six references from multiple submitters. The fee structure could

stay the same for individual submitters. If the USPTO is hesitant with major changes to the fee structure, they could always implement the collaboration tool as a pilot Program, to see how the changes affect operations within the agency.

Overall, if a collaboration tool was developed similar to the one used in the P2P Program, this could potentially raise the percentage of prior art submissions used by the patent examiners since the art is thoroughly reviewed by multiple participants before being submitted.

Transparency

Through our interviews, it was suggested that participation in the Program would increase if USPTO published data on Program usage. We suggest USPTO solicits public feedback on the design of a new website so it is most useful and user friendly to the general public who will be using the website. Once internal improvements are made to the collection of demographic information about Program usage, a similar set up to the current Patents Dashboard could be created to report data about the Program to the general public. A Pre-Issuance Submissions version of the dashboard could be included in the statistics section of the microsite we have recommended (see Figure Appendix K.4). One of our interviewees also thought that if USPTO published the list of patent applications with third party submissions in an Excel spreadsheet, then the public could pull the IFW's of all the submissions within Public PAIR and therefore have all the submission content in one place. His theory is that if the community knows how people are currently using the Program, then they will all be in a better position to understand what is working well and what can be improved.

Funding and Resources

A major reason why the Program is not running under optimum conditions is because of lack of funds. When the Program was first being implemented, resources to make an entirely

new electronic submission system were not available. While we understand that funding is a complicated issue, and we are not knowledgeable enough to make specific recommendations on this particular topic, we can suggest that USPTO re-evaluates the funding allocated specifically to this Program. With more resources available, more improvements could be made to the Program. With an improved Program, the public could be more willing to participate, and examiners would have an easier time utilizing submissions, which would enhance the Program and make examination more effective.

Our PTO Examiner Survey

If USPTO sees fit, we suggest distributing and analyzing the results of our survey after we have completed our on-site work. It can be distributed at specific time intervals to see if any relationships or drastic changes in survey responses change over time. While this was one objective we did not get the opportunity to complete, we hope that our questionnaire protocol and outline of data sets to compare provides USPTO with a thorough survey data analysis plan for future survey distributions concerning the Program.

Summary

We have listed several recommendations to improve the Program and increase user awareness to educate participants. We understand that some are more feasible than others, but wanted to provide a comprehensive list of all recommendations we developed. With more funding available to the Program, features could be improved and public participation could increase. With increased participation, submission quality will improve as users become more familiar with the Program, thus providing more assistance to examiners. With more resources available to examiners, they can put forth higher quality patents. In improving the Program, the

overall patent application process is enhanced, thus providing the country with better quality

patents that positively affect American lives.

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	from http://www.uspto.gov/about/contacts/locations/usptoheadquarters.jsp.

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	September 29, 2013 from http://www.uspto.gov/ebc/portal/efs/efsweb-overview.pdf.

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	from http://www.uspto.gov/about/stratplan/ar/USPTOFY2012PAR.pdf.

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	September 2013 from http://www.uspto.gov/aia_implementation/global_impacts.jsp.

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	Retrieved September 8, 2013, from http://www.uspto.gov/about/offices/ip/index.jsp.

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	from http://www.uspto.gov/about/offices/cao/index.jsp.

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	Officer. Retrieved September 8, 2013,
	from http://www.uspto.gov/about/offices/opa/index.jsp.

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	Retrieved September 8, 2013, from http://www.uspto.gov/about/offices/patents/index.jsp.

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	Retrieved September 8, 2013, from http://www.uspto.gov/about/offices/ogc/index.jsp.

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	from http://www.uspto.gov/patents/index.jsp.

The United States Patent and Trademark Office. (2013m). Patent Review Processing System
	(PRPS). Retrieved 11 Sept, 2013, from http://www.uspto.gov/ip/boards/bpai/prps.jsp.

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	Office Organization. USPTO Organization Chart. Retrieved September 8, 2013, from
	www.uspto.gov/about/bios/uspto_org_chart.pdf.

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	September 15, 2013, from http://www.uspto.gov/image/campus_map.jpg.

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	15, 2013, from http://www.uspto.gov/about/locations/index.jsp.

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Appendix A: Background on the Patent and Trademark Office

The USPTO is an organization established in America following the Revolutionary War during the time of the writing of the Constitution. Many changes have led to the organization's current status as an organization with thousands of employees working with inventors.

Appendix A.1 History of USPTO

The basis of USPTO dates back to Elizabethan England, when *literae patentes* were granted to encourage business and as a gift to royal favorites (Jones, 1971, p. 3). The basis for an inventor benefiting from his invention began in 1790 when George Washington signed the Patent Act of April 10, 1790. Patents were approved by a board through the examination system from 1790 – 1793, granted for up to fourteen years "if they shall deem the invention or discovery sufficiently useful or important" [1] . By 1793 approving patents was too much additional work for high-ranking government officials, so a new application approval system was put into law; applications were not reviewed under examination, and competing inventors were left to settle disputes privately. Additionally, the Patent Act of 1793 no longer required an invention be "sufficiently useful or important" [2]. This system was amended in 1836 when examination procedures were re-implemented through the establishment of a new review system, which was the basis for the current examination system.

Appendix A.2 Current Structure of offices at USPTO

The USPTO is one of twelve bureaus under the United States Department of Commerce (The United States Department of Commerce, 2013). The Under Secretary for Intellectual Property and the Director of the USPTO are in charge of the organization. In October 2010, the

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[1] Jones, 1971, p. 5.
[2] Ibid. p. 7.

organization underwent a structural reorganization to "strengthen the agency's management, communications, and policy functions" as outlined in the *USPTO 2010 – 2015 Strategic Plan* (USPTO, 2011a). The goal of this change was to increase efficiency in the USPTO so that it might accelerate the rate at which patents are processed so that inventions might be brought to market sooner.

The USPTO (USPTO, 2011a) is comprised of the Patent organization and the Trademark organization. The Patent organization is made of the Patent Public Advisory Committee and the Board of Patent Appeals and Interferences; this group works to review patent applications and determine if there is prior art related to the submissions. The Trademark organization is made of the Trademark Public Advisory Committee and the Trademark Trial and Appeal Board. This section registers "trademarks, service marks, certification marks, and collective membership marks" [3] as well as informing the public and businesses about "trademark rights claimed in the pending applications and existing registrations of others" [4].

Under these two organizations are nine subdivisions, which are segregated into more subdivisions themselves (USPTO, 2013n). This project is working with a subsection of the Office of the Commissioner for Patents. This office is comprised of the Office of Patent Examination Policy, Patent Operations, Office of Patent Resources and Planning, and the Office of Patent Information Management (USPTO, 2013j). Each four of these subdivisions is made of smaller offices, noted in Figure 2.3.1 (USPTO, 2010; USPTO, 2011c; USPTO, 2011a; USPTO, 2012e).

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[3] 2011a. "Our Organization."
[4] Ibid.
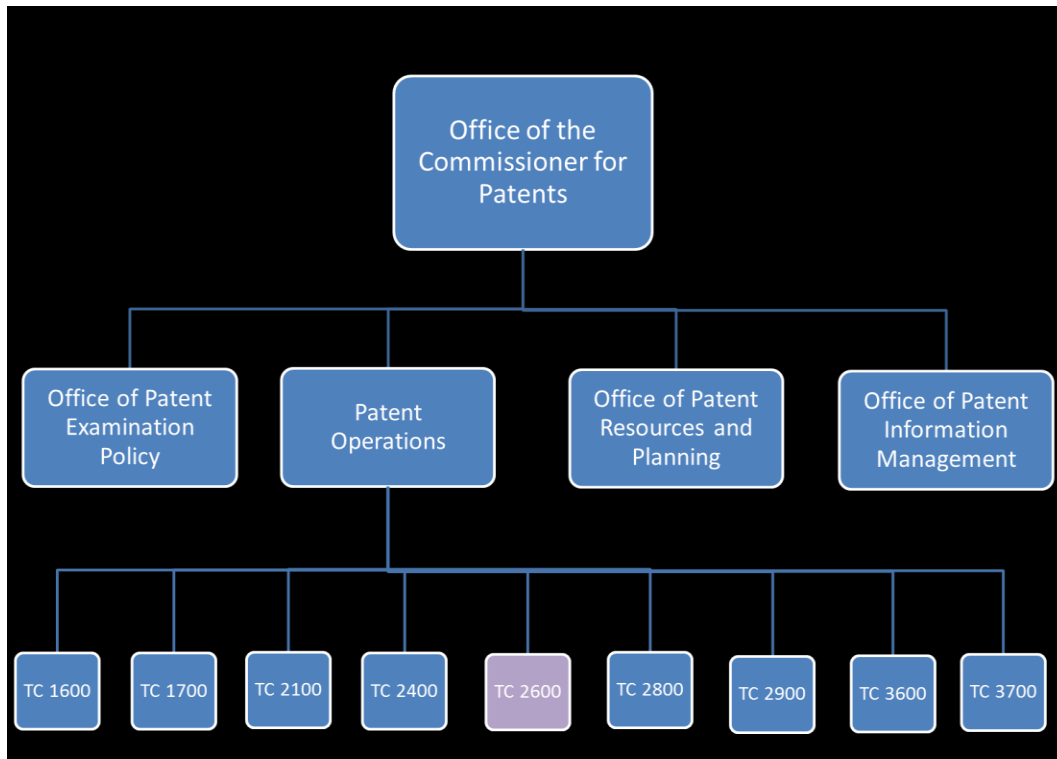
Figure Appendix A.1: Subdivisions of the Office of Commissioner for Patents (USPTO, 2010; USPTO, 2011c; USPTO, 2011a; USPTO, 2012f)

Our project will be working with a subdivision of the Patent Operations office, Technology Center 2600, which focuses on communications. This subdivision is indicated in Figure Appendix A.1 by a different shading then the rest of the offices depicted in the figure.

Appendix A.3 Employee Structure at USPTO

At the end of the 2012 fiscal year, there were almost twelve thousand employees at USPTO. The divisions of employees are split between the Patent Business Line and the Trademark Business Line of USPTO (USPTO, 2013e). The Patent portion of USPTO is comprised of a larger number of staff than the staff comprising the Trademark Examination portion of the organization. Of the total USPTO staff, ninety-two percent work for the Patent Examination section. Ninety-five percent of the total examination staff is Patent Examiners.

Appendix B: About the Interactive Qualifying Project

At Worcester Polytechnic Institute, one of the opportunities given to students is the Global Perspective Program, which allows students to travel abroad to complete their Interactive Qualifying Project (IQP). The IQP focuses on a situation outside a student's major field, and allows students to use technical skills and apply them to a broad social problem. It is typically completed in a group setting to encourage students to work out of their comfort zones, and learn about teamwork and collaboration. WPI focuses on sending well-rounded graduates out into the real world. The IQP puts a real world social problem into perspective for students as they immerse themselves in a new social setting for a term.

Our project in Washington, D.C., is sponsored by the United States Patent and Trademark Office. This Program was created out of the need to decrease the amount of time it takes for a patent to be reviewed and eventually issued. The USPTO was originally founded to provide inventors grants that would protect their rights to their inventions, while encouraging inventors to share their developments with the public. Once the inventions were available to the public, the market for products would increase, providing a stimulus to the economy. As this occurs, the hope is that more inventors would also be inspired to share their work.

Our task is to analyze the effectiveness of the Pre-Issuance Submissions Program, and how it impacts the examination process. To do this we examined the feasibility of the Program from the viewpoint of both the patent examiners and third parties invested in the Program. We hope that by making suggestions about the Pre-Issuance Submissions Program, the public will have more accessibility and understanding of the Program, and the patent examination time will decrease. If the examination process becomes more efficient, inventors can share their products sooner, which will positively impact the economy. We hope that our analysis of the Program will help improve the portion of the examination process involving prior art. We intend for our

suggestions to lead to an overall development of the system, positively improving the system

impacting inventors and the inventions available to the public in the US.

Appendix C: Background on Patents

Appendix C.1 Definition of a Patent

A patent is an intellectual property right given by the federal government to an inventor with exclusive rights for a period of time in exchange for the inventor providing the general public with his invention (Banner, 2012; USPTO 2013l). The patent holder is the only individual who can legally sell, use, or make patent related materials, except where legal exceptions have been permitted. The patent granted can be viewed as a contracted relationship between the inventor and the government (Burge, 1984). Instead of keeping the invention secret, providing patents encourages individuals to put their products on the market to help improve society with their inventions. To be patentable, an invention must:

1. Fit within one of the statutorily recognized classes of patentable subject matter;
2. Be the true and original product of the person seeking to patent the invention as its inventor;
3. Be new at the time of its invention by the person seeking to patent it;
4. Be useful in the sense of having some beneficial use in society;
5. Be nonobvious to one of ordinary skill in the art to which the subject matter of the invention pertains at the time of its invention, and;
6. Satisfy certain statutory bars that require the inventor to proceed with due diligence in pursuing efforts to file and prosecute a patent application [5].

Appendix C.2 Types of Patents

One of the requirements of being patentable is that the invention fits within one of the existing categories for inventions. The three categories of inventions are utility patents, design patents, and plant patents (USPTO, 2013l).

Utility patents are given to inventions pertaining to "any new and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement

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[5] Burge, 1984, p.34.

thereof" [6]. This type of patent includes "electrical, mechanical, and chemical patents" [7]. Utility patents last for twenty years from the application filing date. Simple changes in material or rearrangement of parts used do not dismiss infringement of the patent.

A design patent is given to "a new, original, and ornamental design for an article of manufacture" [8]. These patents last for fourteen years upon issuance of the patent (Banner, 2012, "Design Patent"). While a utility patent is related to the function of the invention, the design patent "protects the way the article looks" [9]. Slight changes in appearance between two inventions can result in two new patents, since design patents are focused on protecting appearance; changes in appearance do bring about new distinct appearances. Design patents offer more restricted protection than utility patents, because they provide appearance protection; changes to appearance without changes to the functioning of an invention could result in a new patent.

The third class of patents is plant patents, granted to "anyone who invents or discovers and asexually reproduces any distinct and new variety of plant" [10]. These documents do not apply to "a tuber-propagated plant or a plant found in an uncultivated state", with the right of exclusion applying "only to the asexual propagation of such a plant" [11]. Patents of this kind last for twenty years from application filing date. The USPTO (2007) explains the limitations of plant patents:

- A living plant organism which expresses a set of characteristics determined by its single, genetic makeup or genotype, which can be duplicated through asexual reproduction, but which can not otherwise be "made" or "manufactured."

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[6] USPTO, 2013l.
[7] Banner, 2012, "Utility Patent".
[8] USPTO, 2013l.
[9] USPTO, 2012b.
[10] USPTO, 2013l.
[11] Banner, 2012, "Plant Patents".

- Sports, mutants, hybrids, and transformed plants are comprehended; sports or mutants may be spontaneous or induced. Hybrids may be natural, from a planned breeding Program, or somatic in source. While natural plant mutants might have naturally occurred, they must have been discovered in a cultivated area.
- Algae and macro fungi are regarded as plants, but bacteria are not ("What is a plant patent?") [12].

There are two divisions in the discovery involved in plant applications, the discovery of the new plant and the asexual reproduction of that plant. Asexual reproduction grows a genetically identical copy of the original plant without using genetic seeds, to create stability for the plant.

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[12] USPTO 2007.

Appendix D: Prior Documentation

This section contains example snapshots of the information we received once we began our on-site work. These are small sections of large spreadsheets we worked with to extrapolate relationships from the data.

Appendix D.1: Third Party Submissions

Serial Number	EFSWeb	Submitter		Timestamp	Art Unit	Tech Center	Status	Patents	Published US Apps	For Ref	NPL		Reason	
12797001	13759573	Kevin Michael Drucker		2012.09.16 15:12:49	3677	3600	Improper	0	0	0	10	10	numerous arguments against patentability; one document appeared to be multiple documents combined together; and numerous documents were not clearly publications and lacked any evidence of having been published.	Concise description
13145379	13759684	David W. Klinger		2012.09.16 17:08:52	1783	1700	proper	2	2	0	0	4		
13339523	14693864	Jennifer P. Yancy		1/14/13 4:42 PM	1621	1600	Improper	1	0	0	0	1	submission of reference submitted under 13759703	Fee not paid
13145379	13759703	David W. Klinger		2012.09.16 17:31:22	1783	1700	proper	1	0	0	0	1		
13057428	13759708	David W. Klinger		2012.09.16 18:04:44	1784	1700	proper	2	2	3	0	7		
12940265	13761780	Wendell Ray Guffey		2012.09.17 13:21:01	1782	1700	proper	0	1	0	2	3		
13260914	14029538	Catherine Van Houten		10/19/12 3:18 PM	1624	1600	Improper	0	1	0	7	8	concise description; the submission included arguments against patentability; multiple documents were not clearly publications and	Concise description
13284337	13762551	Harris F. Brotman		2012.09.17 13:32:16	1652	1600	proper	0	1	2	1	4		
13403496	13762802	Spencer K. Warnick		2012.09.17 13:40:08	2857	2800	proper	4	1	0	0	5		
13367018	13762984	Spencer K. Warnick		2012.09.17 14:00:27	2857	2800	proper	5	0	0	0	5		
12829968	13763674	Elaine Marie Heal		2012.09.17 14:34:34	3736	3700	proper	1	0	1	0	2		
12940276	13764669	Wendell Ray Guffey		2012.09.17 15:27:58	2127	2100	proper	0	1	0	2	3		

Figure Appendix D.1: Snapshot of Master List Spreadsheet

Appendix D.2: Patent Applications with Third Party Submissions and Office Actions

Application No.	TC	GAU	3rd Party Submission D	of Act	Used in Office Action	Type of Action	e of Rejection using	Patents Used	PGPubs Used?	Foreign Used?	NPL Used?
14585009	1700	1793	08-Jan-2013	1	No	FAOMs					
12980965	3700	3714	09-Jan-2013	1	No	FAOMs					
13425089	3717	3700	1/9/2013	1	No	FAOMs					
12931828	2800	2887	1/10/2013	2	NO	Final Rejections					
13283750	1727	1700	5/21/2013	1	No	FAOMs					
11883950	2800	2857	1/11/2013	1	No	Allowances					
13616853	1793	1700	1/15/2013	1	No	FAOMs					
13352207	3600	3689	16-Jan-2013	1	No	FAOMs					
13530631	1600	1618	1/18/2013	2	Yes	Final Rejections	102(b) and 103(a)			Yes	
13005970	2800	2889	1/19/2013	1	No	FAOMs					
13443633	3700	3717	21-Jan-2013	1	No	FAOMs					
13011630	3600	3617	22-Jan-2013	1	No	FAOMs					
13182471	1600	1642	1/25/2013	2	No	Abandonments					
12949867	3600	3686	28-Jan-2013	1	No	FAOMs					
12589181	1600	1633	1/28/2013	3	Yes	FAOMs	102(b) and 103(a)		Yes		Yes
13212584	3600	3631	29-Jan-2013	1	No	FAOMs					
13125961	1600	1647	1/29/2013	1	No	FAOMs					
13225126	1600	1647	1/29/2013	1	NO	FAOMs					
12984392	2800	2835	30-Jan-2013	1	No	FAOMs					
13302405	3700	3751	2/1/2013	1	No	FAOMs					
13410070	1600	1636	2/4/2013	1	Yes	FAOMs	103(a)	Yes			
13313105	3700	3733	2/8/2013	1	No	FAOMs					
13226745	3700	3727	2/13/2013	1	No	FAOMs					

Figure Appendix D.2: Snapshot of Office Action Spreadsheet

Appendix E: Survey Templates

This appendix contains the blank templates used for the surveys that were given to examiners.

Appendix E.1 USPTO Patent Examiner Survey

This survey was given by a TC director to examiners. This was given prior to our arrival at USPTO but we were given the raw data to use to complete our analysis of the Program.

<div style="border:1px solid">

THIRD PARTY SUBMISSIONS EXAMINER SURVEY

Survey completion Date: [   ]

Examiner please note: Third Party Submissions are to be treated by examiners as they would an IDS filed by an applicant.

1. U. S. Application Serial Number: [   ]

2. How many references in total were submitted? [   ]

3. If the submission was filed after FAOM, do you recall previously considering any of the 3rd party submissions? [   ]

4. Overall, to what extent were the submissions by the third party useful during the examination of your application?

   ⦿ Not at All   ◯ Limited Extent   ◯ Moderate Extent   ◯ Great Extent

5. Overall, to what extent were the concise explanations helpful in identifying pertinent parts of the submissions?

   ⦿ Not at All   ◯ Limited Extent   ◯ Moderate Extent   ◯ Great Extent

   Please briefly explain: [   ]

6. What impact did the concise explanations have on your consideration of the submissions?

   ⦿ Overall Saved Time   ◯ No Impact   ◯ Took More Time   ◯ Other
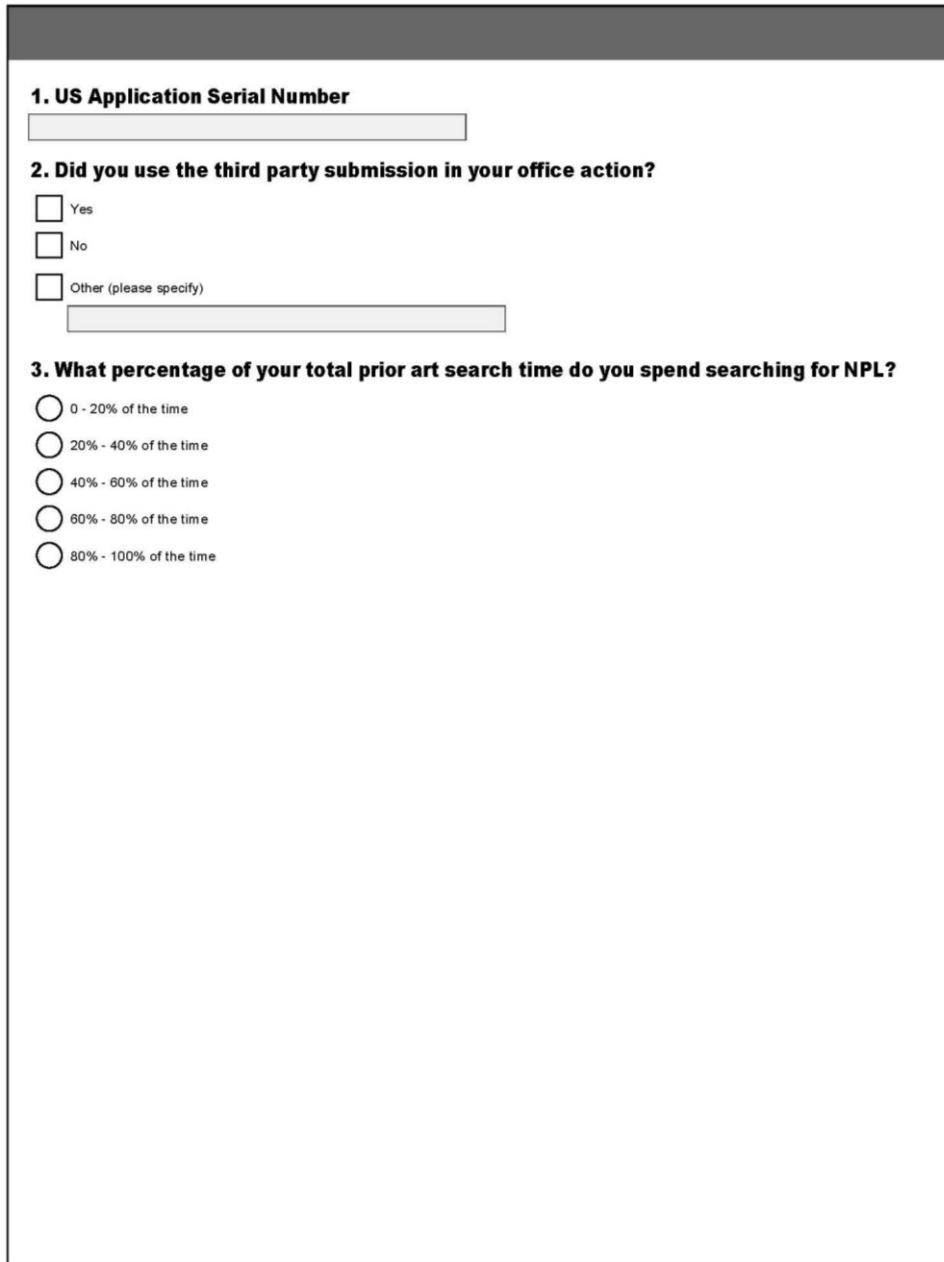
   Please briefly explain: [   ]

7. How much time did it take to consider the 3rd Party Submission? [   ] hour(s) [   ] minutes

8. What recommendations, if any, would you have for improvements to the concise descriptions of the submissions?

   [   ]

9. Other comments? (e.g. the 3rd party submission identified a new area to search)

   [   ]

</div>

Figure E.1.1: Copy of questionnaire given to examiners after reaching an office action that included a third party submission

Appendix E.2 Survey of PTO Examiners

The following images are the pages of the questionnaire that we sent to examiners. Even though

the survey was conducted online through SurveyMonkey®, the information is included below in

the PDF format.

Figure E.2.1: Page 1 of survey, questions 1 – 3

4. Please rate your agreement with these statements

	Strongly Disagree	Disagree	Netural	Agree	Strongly Agree	I prefer not to answer
The 3rd party submission was easily indicated and visible within eDAN.	○	○	○	○	○	○
The submission was received in time for consideration.	○	○	○	○	○	○
As an examiner, you have enough training/resources to properly address and process the third party submission.	○	○	○	○	○	○

5. Please rate your agreement with these statements

	Strongly Disagree	Disagree	Netural	Agree	Strongly Agree	I prefer not to answer
The 3rd party submissions were useful during the examination process.	○	○	○	○	○	○
The prior art submitted was relevant with respect to the patent application.	○	○	○	○	○	○
THe 3rd party submission allowed you to find prior art that was not easily found with USPTO resources.	○	○	○	○	○	○

6. Any comments on the usefulness of the submission, relevance of the prior art, or why or why not the submission was helpful?

Figure E.2.2: Page 2 of survey, questions 4 - 6

7. Please rate your agreement with this statement

	Strongly Disagree	Disagree	Netural	Agree	Strongly Agree	I prefer not to answer
The concise description of relevance was useful.	◯	◯	◯	◯	◯	◯

8. What type of standarized format of the concise description of relevance would you prefer?

☐ Narrative

☐ Claim Chart

☐ No standardized format

☐ I prefer not to answer.

☐ Other (please specify)

> [_____]

9. What should the page limit of the concise description of relevance be?

◯ 0 - 2 pages

◯ 2 - 5 pages

◯ 5 - 10 pages

◯ No page limit.

◯ I prefer not to answer.

◯ Other (please specify)

> [_____]

Figure E.2.3: Page 3 of survey, questions 7 - 9

10. Please rate your agreement with these statements

	Strongly Disagree	Disagree	Netural	Agree	Strongly Agree	I prefer not to answer
The inclusion of the submission decreased the time spent searching for prior art.	○	○	○	○	○	○
The 3rd party submissions made the examination process more efficient.	○	○	○	○	○	○

11. Based on your answers in Question 10, can you explain how the submission impacted time spent?

[text entry box]

Figure E.2.4: Page 4 of survey, questions 10 - 11

12. If you did not use the prior art, can you explain why? (please choose all that apply)

☐ Only demonstrated state of the art

☐ Found better art

☐ Not directed to the same inventive concept

☐ Other (please specify)

[   ]

13. Do you have any suggestions on how 3rd party submissions can be improved?

[   ]

14. Do you have any other comments/suggestions/concerns that you have not previously stated?

[   ]

Figure E.2.5: Page 5 of survey, questions 12 - 14

Appendix F: Survey Results

This appendix contains the raw data that was collected from the surveys, and the charts and

tables we used for analysis of that information.

Appendix F.1 USPTO Patent Examiner Survey

The results in this section list the responses to the PTO survey given to examiners before our

arrival on-site.

Appendix F.1.1 Raw Results

The first two questions asked demographic information of the survey completion date and the
application serial number the questionnaire was filled out in reference to.

Question 2: How many references in total were submitted?

Table F.1: Summary of number of references submitted

Number of references	Frequency of response
1	16
2	22
3	20
4	7
5	8
6	4
7	6
8	1
9	5
10	1
13	1
24	1
93	1

Histogram of how many references submitted

Number of references	5	10	20	30	40	50	60	70	80	90	100	More
Number of responses	73	17	1	1	0	0	0	0	0	0	1	0
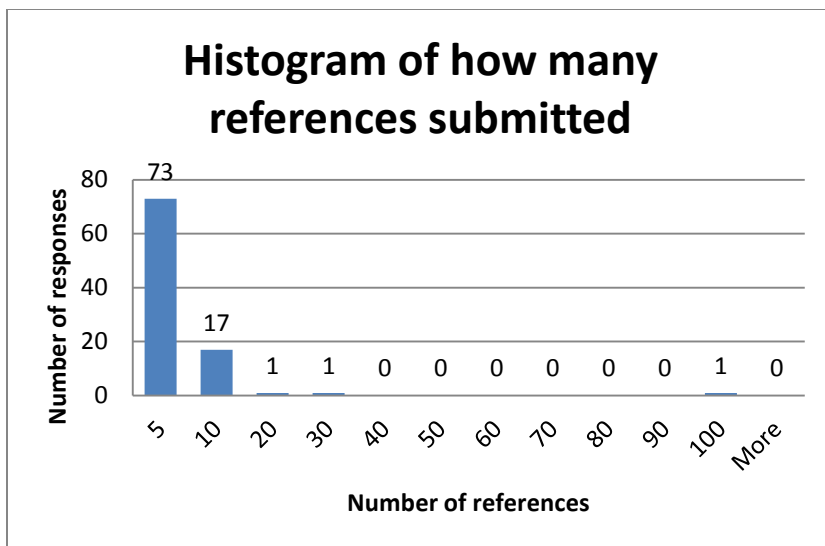
Figure F.1: Histogram of how many references submitted

Question 3: If the submission was filed after FAOM, do you recall previously considering any of the 3ʳᵈ party submissions?

Table F.2 Summary of responses of Question 3

Response	Frequency of Response
Yes	21
No	30
No response	32
Before FAOM	7
I don't recall.	1
The third party submission arrived at the same time that I finished the prior art search and office action which resulted in a 102 prior art NOT the same one as the Third Party Submission.	1
The submission was filed after a final rejection, but was considered when the application went into pre-appeal proceedings	1
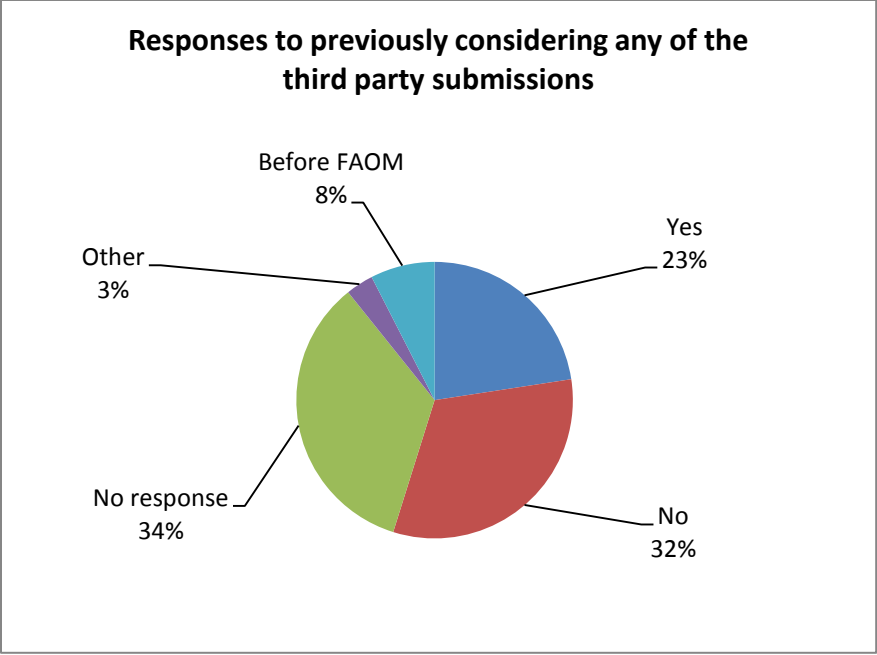
Figure F.2: Pie chart of responses of Question 3

Question 4: Overall, to what extent were the submissions by the third party useful during the examination of your application?

Table F.3 Summary of responses of Question 4

How Useful	Frequency of response
Not At All	12
Limited Extent	33
Moderate Extend	27
Great Extent	21
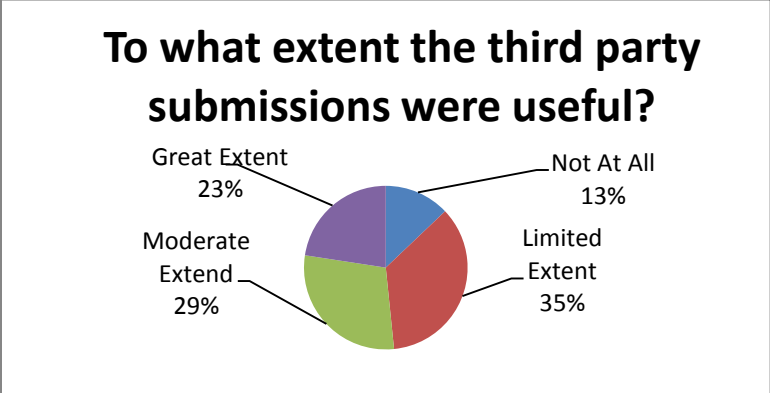
Figure F.3 Pie chart of extent of usefulness of Question 4

Question 5: Overall, to what extent were the concise explanations helpful in identifying pertinent parts of submissions? Please briefly explain.

Table F.4: Summary of response to part 1 of Question 5

Answer	Frequency
NotatAll	6
Limited Extent	30
Moderate Extent	28
Great Extent	29
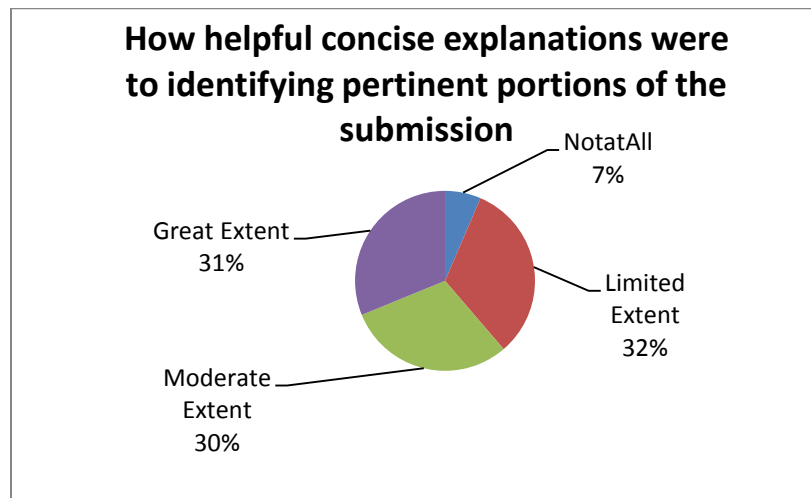
Figure F.4: Pie chart of response summary of Question 5

Table F.5: Summary of responses to explaining why in Question 5

| Classification in pie chart	Response
No response (8 responses)	left blank
Information to the examiner (9 responses)	brief summary of Sahin and Takahashi is less than examiner's. Yanik is not available as prior art.
	upon reviewing the corresponding disclosure in Schubert to claims in Funatsu, the examiner did not find the corresponding disclosure reading on the claims.
	Explanations didn't disclose any information that as not known to the examiner.
	general summary
	I briefly reviewed the references when I got this email and will consider with the next office action. I may use the US reference to reject the claims from a new prospective.
	The Jubb reference was found with a prior art search without need for a third party submission. Having a summary of what pertinent parts made the third party submissions necessary was helpful and saved time from having to guess which instant claims were arguably taught.
	The explanations were directed towards the original claims but did not necessarily apply to the amended claims
	references already used in the FOAM were included without additional information or correction of interpretation. References not used in FOAM were included but were not available as prior art.
	A different 102 reference was used to reject the independent claim. None of the references submitted in the third party IDS had a 102(b) date. Therefore, the submission was useful, but not used.
Not clearly relevant (9 responses)	Not clearly relevant to the claimed invention.
	Not clearly relevant to the claimed invention.
	Not clearly relevant to the claimed invention.
	Would have been more helpful if they were more relevant to the invention.
	concise explanations did not meet claim limitations in many areas.

	The references provided by the third party and the explanation did not apply to the amended claims.
	Not clearly relevant to the claimed invention.
	The cited references were only tangentially related. If the case is allowed, I assume they will be cited on the front of the patent, but if 3rd party had not provided them they would not have been.
not completely helpful/some drawbacks/some limitations (18 responses)	The concise description glossed over the limitation which was at issue and failed to provide proper evidence to show obviousness and anticipation of the specific limitation at issue.
	The concise description glossed over the limitation which was at issue and failed to provide proper evidence to show obviousness and anticipation of the specific limitation at issue.
	Explanations were not concisely detailed.
	The explanations provided were for the art submitted but did fit overall with the claimed subject matter.
	The explanations were drawn toward showing of video images of a process of a system and what the system could accomplish in anticipating the claimed invention. However, specific or inherent evidence showing of the process anticipating some key claimed features were missing.
	Explanations were detailed and helpful for identifying relevant sections. However, applicants amended the claims in response to the FAOM to include features not recited in the new references, and therefore the explanations were of limited value because they failed to address a major claimed feature.
	The concise explanations was not concise in regarding to the claimed limitations of "a flow pressure controller ... higher than the flow pressure in the cutting".
	The explanations were too general and did not address every element of the claims.
	It is helpful, but it took me many times to consider the difference languages between the references and the claimed invention. For this application the difference languages between the references and the claimed invention is not clear.
	The explanations were good, but I believe missed some of the more subtle limitations in the claims that prevented me from applying the art.
	The relevant section was described and it was relevant, but the manner in which the teachings of the cited reference read upon the claim was not clearly explained.
	The explanations detailed the parts of the prior art that were relevant to the claims; however, all of the limitations were not found within the submissions
	references were not cited by the examiner
	The submissions were both 7 pages long and included figures, so while the explanations were helpful, they weren't as essential compared to a submission that would be longer and more detailed or complex.
	I used reference #3 as a secondary reference in a 103 rejection for limitations I had not found in my own search, but not discussed in the third party submission.
	Cited paragraph numbers did not disclose the claimed subject matter, or only partially disclosed the claimed subject matter.
	The references were helpful but the prior art has extensive examples of the polymethacrylate viscosity index improvers recited in the instant independent claims. Therefore the submission was considered but the
	Provided abstract-level summary of prior art with some specific citations. About the same helpfulness as an ISR with non X or Y references.
Specific/helpful/concise (41 responses)	The identification of the relevant art was helpful, but not much time was spent reviewing the explanations.
	Good explanation between claim 1 and the features of both references.
	Helpful in identifying what keywords to expect in the references and the gist of the reference
	Very detailed and claim specific descriptions
	The reference helped me get a good idea that the application was known in the prior art, and I needed to find other references.
	chart is helpful (manual vs. claims)
	The 3rd party submission included both the reference, which was in a foreign language, as well as an English submission that spelled out the relevance of the reference to the claimed invention of the application.
	I was able to use two of the Third Party Submitted references (as NPL) in my new Non-Final Rejection, as listed in the last OA mailed out on 07/16/2013.
	The mapping of the claim limitations to actual portions of the submissions is much more useful than the old system.
	The concise explanations included claim charts comparing limitations of the claims at issue with specific citations in the prior art references.

		The concise explanations included claim charts comparing limitations of the claims at issue with specific citations in the prior art references.
		The brief description provided for each prior art by the third party was clear.
		I was able to use a submission in a new rejection. The submissions had a component described in the reference in which the applicant's argued was not in my prior art in the first office action.
		The third party submission mapped the claim language to the pertinent teachings in each of the cited documents, which helped me to determine the relevant art. The descriptions also reaffirmed my view on the cited documents I had previously considered.
		The mapping of the claim text versus the references was ideal
		References were made to specific figures, paragraphs and columns.
		The supporting Description of Relevance mapped each reference to the limitations presented in the independent claim.
		the explanations saved time by pointing to the specific details
		person who submitted indicated claim by claim that was potentially covered by the prior art submitted.
		It was helpful to be directed to the location of the relevant portions/keywords
		I found the submissions very useful and used the prior art and explanations in my OA. They also helped me focus my search.
		They list the relevance of the claimed invention of the application and related prior art in one to one comparison of the claimed limitation, which is very clear to see without spending too much effort.
		The third party made clear how two of the prior art was to be considered.
		They quickly directed my attention to the locations of interest within the reference.
		The third party submissions identifies limitations by limitations in the prior arts
		The submitted prior art allowed for the finding of other pertinent art
		Pointing out exactly where the features are present in the prior art makes the prior art's relevance very clear, and helps reduce time searching for what they might have meant.
		The explanations are useful in that they are directed to the claim limitations as opposed to merely stating that the art in general is relevant.
		The claim chart with detailed explanation was helpful in identifying the claimed elements matches in the references.
		3rd party submission was a 102(b) ref that otherwise would have been a difficult text search to find. Picture search would have take longer.
		The reference provided gave me an interpretation of the art that I had not considered.
		3RD Party provided line by line comparison
		The submission mapped out the independent claim to the supplied reference showing reference numbers.
		one of reference JP 05-311107 was used in a 103(a) Rejection
		The submission included a mapping of the pertinent structure in the reference cited and how it applied to the present claims, which was very helpful when considering the reference
		Third Party Submissions compare all elements of the claims with the elements of the references.
		The concise description was very informative.
		The explanations pointed exactly to the part of a previous patent and a previous patent application that were relevant to the case, and explained the relevance
		For the specific claims (only 11 of the 36), I was able quickly validate relevance.
		It helped narrow down what the Third party saw in the teachings or suggestions of the prior art with respect to what and how the Third party was interpreting the language used to set forth or define the claimed invention.
		It helped in determining what the entity that submitted the art saw in the art and why the art was submitted.
Timing (6 respones)		Submission of these references occurred after the FAOM was mailed. However, these submissions probably contributed to the eventual abandonment of the application by Applicant.
		I didn't actually see the third party submission so didn't see the explanations. I did use one of the cited references though bc it was also on the IDS from Third Party.
		The submission was after a first action was issued. The submission were in the field of invention, but were not necessarily directed toward the invention.
		The case was expressly abandoned before the examiner had a chance to consider.
		The third party submission was not formally considered during prosecution, only because the application was abandoned after first action, and the third party submission was filed after the first action.
		I didn't use the third party submission given that it arrived after I finished the prior art search and was

|	
	finalizing the first office action. I should mention that its content would have been helpful given its detail and relevance similar to the prior art that was used.
Used alternative reference material (3 responses)	Two of the 3rd party references were used in a 102(b) rejection. Other references were applicable to a 103 rejection but were not used because a better reference was found.
	I found better references on my own, but these 3rd party references may be used later in prosecution.
	Examiner used prior art other than that cited by the 3rd party to make her rejections.
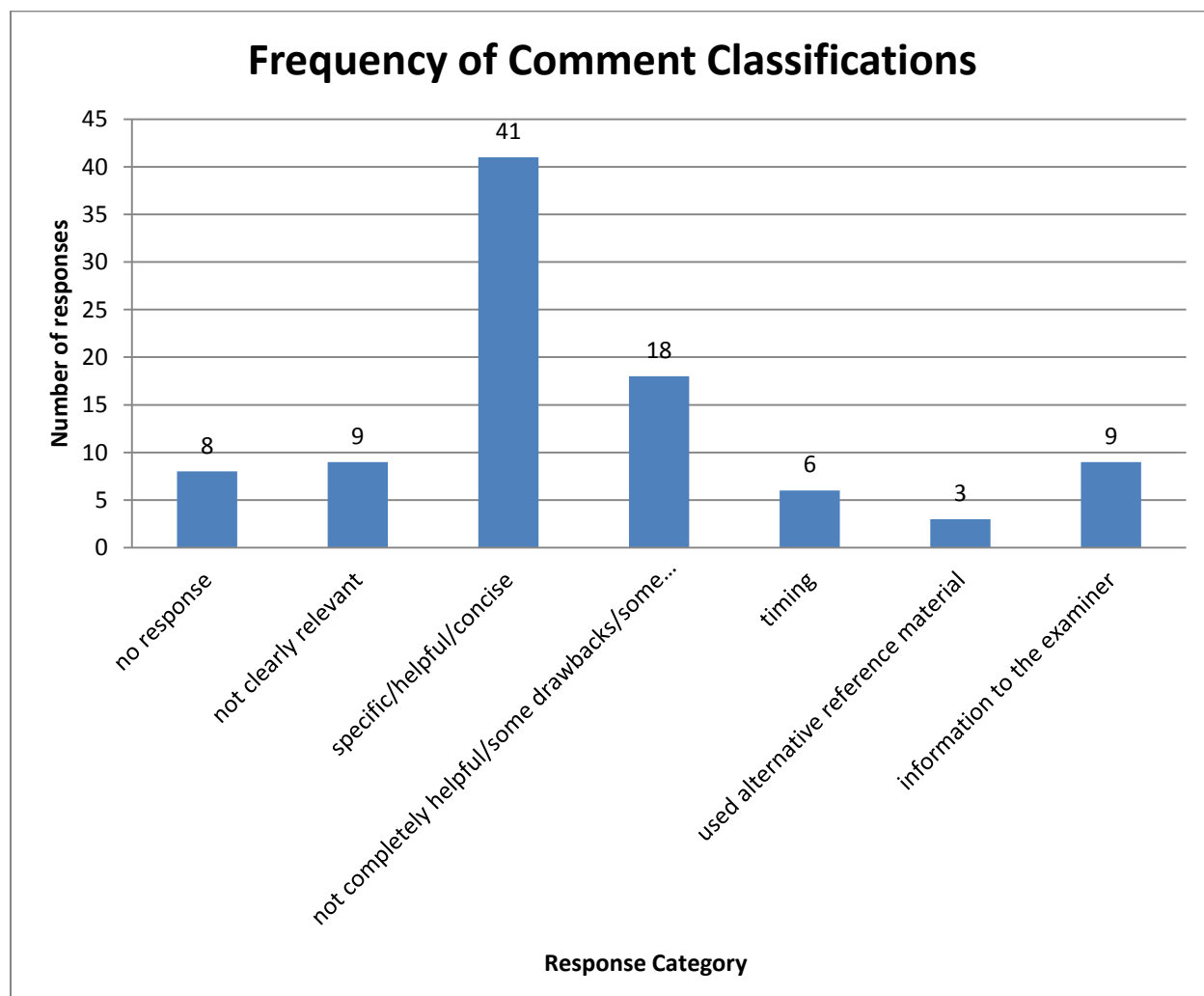
Figure F.5: Classification of Responses to Question 5

Question 6: What impact did the concise explanations have on your consideration of the submissions? Please briefly explain.

Table F.6: Summary of responses to Question 6

Answer (range of choices)	Frequency
Saved Time	44
No Impact	21
More Time	24
Other	4

Responses to the impact of concise explanations on consideration of submissions

- Other 4%
- More Time 26%
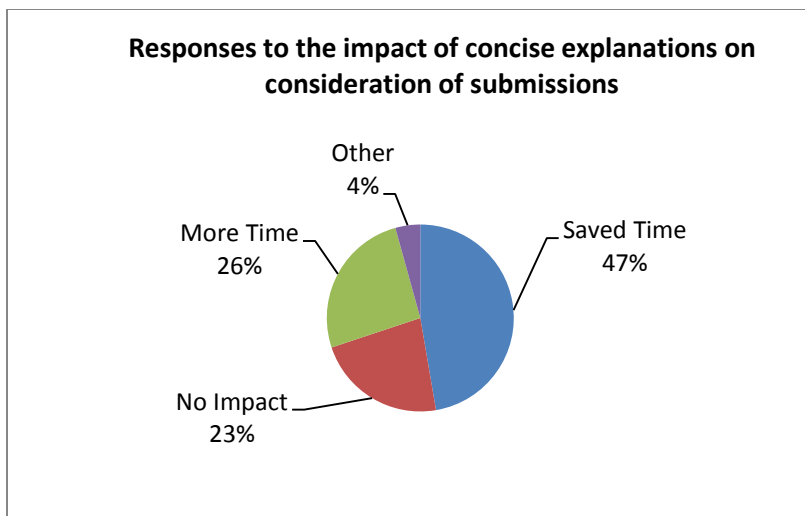- Saved Time 47%
- No Impact 23%

Figure F.6: Pie chart of summary of responses to Question 6

Table F.7: Classification of open ended responses to Question 6

Classification in pie chart	Response
No response (9 responses)	Left blank
complicated/lengthy/confusing /not specific	The concise explanation employed voluminous reference (83 pages) which were not previously considered and reading through the reference took time. I also had to make an interview session to ensure that these references are discussed with the Applicant since this was after final in a "special" case. I could not merely send a rejection and wait for the arguments in response.
	The concise explanation employed voluminous reference (83 pages) which were not previously considered and reading through the reference took time. I also had to make an interview session to ensure that these references are discussed with the Applicant since this was after final in a "special" case. I could not merely send a rejection and wait for the arguments in response.
(13 responses)	There are two submissions divided into 8 documents in IFW, so figuring out the document number that correlates with the name on the reference and the description is confusing. If applicants are attempting to write an anticipation or obviousness rejection, the rejections are not clearly set forth.
	Since the explanations were not concisely detailed, more time was needed for a thorough review of each of the references.
	The submission was more focused on the broad aspect of the intended use of the claimed invention rather than the key specific features.
	Explanations were quite detailed and the submitter tried to address most of the claimed features. However, my consideration took more time because, in addition to performing my own analysis of each reference, I had to sort through the submitter's analysis, interpretation and opinion regarding the relevance of each reference, and their explanations of inherency/obviousness for several features which were missing from the references.
	had to consider the reasoning behind the submission of the references.
	The explanations set forth a basic reasoning why the 3rd submissions may be relevant to the claims at hand. They provided an overview of whether further investigation of the references was warranted
	The explanations were too general and did not address every element of the claims.
	It cost me more time to review and compare the difference languages between the references and the claimed invention.
	Even the third party submission saves Examiner's search time, the comparison shown in the concise explanations needs further consideration by Examiner. This comparison sometimes requires unexpected amount of time and efforts. It would be better if they provide itemized matches of claimed elements in the concise explanation.
	The "concise" submission was 37 pages.
	I can't tell that the submissions made any impact except that there may be an interference brewing (letter from Rossi, Yanik)

examiners read/searched for materials (8 responses)	i read the documents cited entirely, regardless of the explanations provided
	Consideration is relatively time consuming because you have to fact check each explanation.
	Although it took more times to look through the references provided by the third party, it is still somewhat helpful knowing that I didn't miss any available reference that could apply to the office action.
	The reference took more time only because I reviewed the reference to determine if I should use it for a rejection.
	I reviewed the third part submission after completing the search as I normally would. Upon review, I discovered that reference #3 was useful in a rejection.
	I searched and found references for the rejections of all the claims; but I had to consider the Third Party Submissions in order to reject the claims with another ground of rejection.
	Still had to review art
Information provided to the examiner (3 responses)	It would have helped if I knew about the third party submission but it did not show up anywhere in the "prosecution" tab of edan. I had to go into "incoming" to see it.
	gave background info
	For the specific claims (only 11 of the 36), I was able quickly validate relevance.
Not clearly relevant (9 responses)	Not clearly relevant to the claimed invention.
	Not clearly relevant to the claimed invention.
	Not clearly relevant to the claimed invention.
	The one reference submitted was non-analogous art. I spent extra time trying to see how i could possibly use it, but did not because I was unable to combine with my primary reference(s).
	Spent time reviewing the submission without learning any new information.
	The submissions did not have an impact due to not fitting with the overall claimed subject matter. One reference was used solely as a composition whereas the claimed subject was directed to a refractory fibrous material impregnated with a hardening composition. The hardening composition of the submission was not relevant to the hardening composition required by the present claims to impregnate refractory fibers.
	The subject matter for which the case was found allowable was not in the third party references submitted
	I merely used the reference in the Response to Arguments section in support of my position.
	Not clearly relevant to the claimed invention.
same reference material (2 responses)	It was a reference that was already reviewed in my prior art search.
	I had already found good art in my keyword searching, therefore these extra references were more just something to quickly read through as I wasn't looking for another reference.
Specific/helpful/concise	Directed me to what keywords I should expect and search for while reading and whether the reference warranted a skim read or a detailed reading
	It saved time as I was able to find 102(b) references rather quickly by citing the Frisk reference.
	Particularly points out which paragraph reads on each claim limitation
	The claim chart is a very helpful tool in developing the rejections.
	gave page #s
	Again, the English submission pointed out how the reference compared to the claimed invention and also submitted photos of the device of the reference.
	I selected two of the Third Party Submitted references, based on their brief explanations, in my new Non-Final Rejection
	I know what the submitter thinks is important now.
	The concise explanations helped identify what the 3rd party considered relevant in the submitted prior art references, including necessary calculations.
	The concise explanations helped identify what the 3rd party considered relevant in the submitted prior art references, including necessary calculations.
	The concise explanations of each prior art were very helpful describing their relevance to the current application.
	RCE filed waiting for FOAM. The US publication will be reconsidered in the next office action in view of the explanation of the reference and its application on the claims.
	The submissions provided the location in the reference that correspond to the limitations.
	The claim language was mapped to the pertinent teachings in the cited documents, which saved me time in finding the relevant structure and location in the specifications (i.e.; column and line numbers).

	The concise explanations allowed me to quickly see how the submitter interpreted the art
	It helped me to pinpoint the allowable subject matter.
	Was able to quickly review the relevant portions of the prior art.
	I didn't have to read the entire reference in detail.
	Helped me immediately identify relevant prior art
	It's easier to read a synopsis of a reference before trying to understand it.
	could quickly determine how relevant
	Overall saved time because I was directed to the relevant sections/keywords, giving me a good starting point.
	I found the submissions very useful and used the prior art and explanations in my OA. They also helped me focus my search.
	The comparison chart of the one limitation by one limitation between the claimed invention and the prior art citation saves time.
	The cited prior art allowed for a better interview and amended claims.
	Instead of going back through my search (that likely contained this reference) to find for myself the potential relevance of the art - it was already there for me.
	The limitations of the claims are directly pointed out in the submissions
	See above. *Pointing out exactly where the features are present in the prior art makes the prior art's relevance very clear, and helps reduce time searching for what they might have meant.*
	Same as above.. *The explanations detailed the parts of the prior art that were relevant to the claims; however, all of the limitations were not found within the submissions*
	explanation helped to see disclosure in the art
	Saved extensive time; allowed for more focused text search based on terms found in the ref submitted.
	See above. *The Jubb reference was found with a prior art search without need for a third party submission. Having a summary of what pertinent parts made the third party submissions necessary was helpful and saved time from having to guess which instant claims were arguably taught.*
	2 of the 3 citations directed me to the specific passages which the 3rd party deemed relevant.
	They served as a helpful tool to approach and address the documents.
	The reference gave me a different way of looking at the terms in the art.
	Concise explanations immediately directed me to the relevant paragraphs.
	It made it much easier to consider, rather than having to go through the entire reference and identify what the third party submission considered relevant.
	The third party submission was very good at targeting what was in the references and the relevance to the claims
	The concise description clearly identified the portions of the submissions that were believed to overlap with the instant application.
	I was able to use the concise explanations to quickly determine that the submission was highly relevant to my case
	Submission identified pertinent details in the specification quicker than having to review the entire document.
	See comment to question 5, *It helped narrow down what the Third party saw in the teachings or suggestions of the prior art with respect to what and how the Third party was interpreting the language used to set forth or define the claimed invention.*
	It helped in determining what the entity that submitted the art saw in the art and why the art was submitted.
Timing	The submission was received the same day the FAOM was mailed.
	The explanations were not seen before FAOM. However, they would have been helpful during examination.
	The case was expressly abandoned before the examiner had a chance to consider.
	The concise explanation was a good summary of the submission, but the references were not formally considered, because the application was abandoned.
	As mentioned earlier it was not used although it would definitely impact the time given the details that were provided. I did consider the TPS for the final office action. I should add that the reference that was submitted was also included as a reference in the application.
Used alternative reference material (2 responses)	Took more time at this point in prosecution because I already had a solid reference, but if that is overcome, these may be great backup references and would save time in the end.
	I went through the relevance descriptions and found them helpful but the prior art of record already

Classification of responses to the impact of concise explanations on consideration of submissions
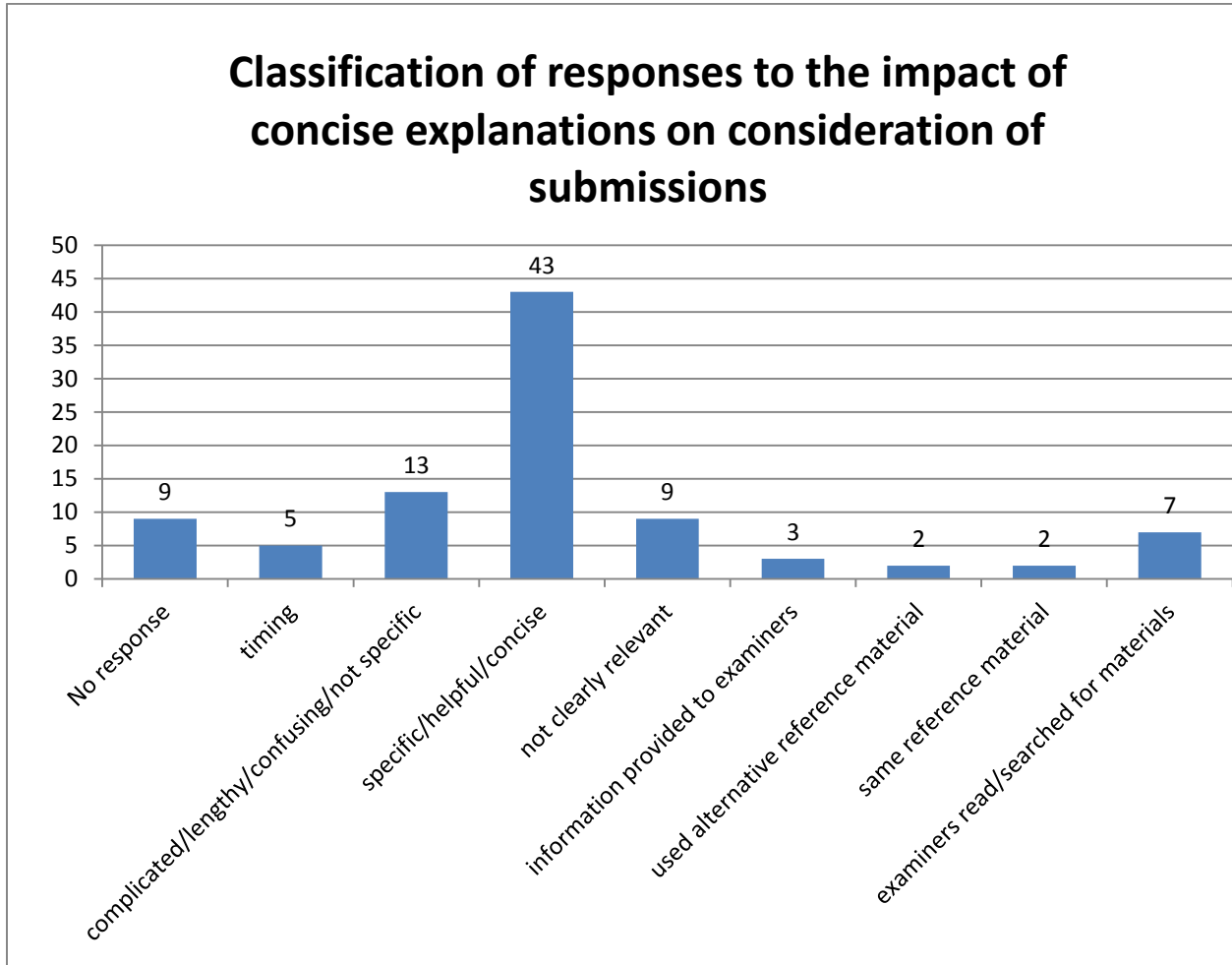
Figure F.7: Pie chart of response classifications to Question 6

Question 7: How much time did it take to consider the 3rd party submission? (In hours and minutes.)

The results of the "hours" and "minutes" columns were added together to get a column of "total hours."

Table F.8: Summary of total hours to Question 7

Total Hours	Frequency of response
0	3
0.1667	3
0.25	3
0.3333	5
0.5	8
0.6333	1
0.6667	1

0.75	2
1	30
1.333	1
1.5	1
1.583	1
2	38
2.5	1
3	3
3.5	1
4	2
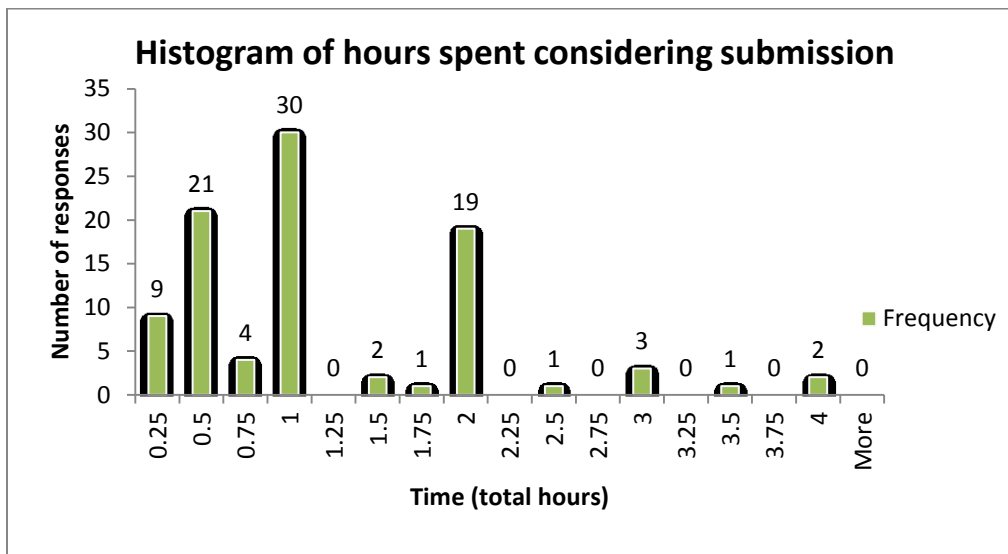
Figure F.8: Histogram of total hours spent in Question 7

Question 8: What recommendations, if any, would you have for improvements to the concise descriptions of the submissions?

Table F.9: Summary of responses to Question 8

Classification in pie chart	Response
no response (25 responses)	left blank
no suggestions (27 responses)	None, the submitting party provided a good explanation of relevance.
	No other recommendations
	No suggestions.
	None
	moved answer to comments field
	None, at this time.
	moved answer to comments field; *The concise description was adequate.*
	none
	Not sure at this time.

	None. I wish that we used this format with other things (such as responses to 105 requests).
	No comments
	I think they were sufficient
	None
	I would recommend that third party submissions follow the style of the one in this application. Since examiners have to decide whether the references are strong enough to be used in a rejection, the concise descriptions should be as brief as possible but in a focused manner. The descriptions should saved time.
	None in this particular instance.
	NONE
	None, this one was short and sweet.
	None
	None
	The concise descriptions were helpful and were fine and there are no improvements that I would suggest in this case.
	None, it was very helpful.
	In my case, the Third Party Submissions are excellent: they compare elements of the claims with elements of the references.
	The descriptions were excellent and very organized.
	None, it did just what it should.
	OK as is.
	None
	None
concise explanations (9 responses)	It would also help to see the rationale to combine of the submitter. In this case, the submitter did not provide any reasons as to why one ordinary skill in the art would combine the three references. The concise explanations were pretty good for this submission. It was clear what the 3rd party was intending to show. The concise explanations were pretty good for this submission. It was clear what the 3rd party was intending to show.
	The submissions were adequately described. i would recommend them to add the Application's claim numbers or cite the specific claimed subject matters in their explanations.
	It will help if the concise description carefully considers other limitations that are not pointed out in the submission since these limitations may change the whole meaning of the pointed out limitations.
	Make the submissions more concise.
	I think that the concise description of the submission is an excellent idea. The concise description submitted in this instance was clear and well-written.
	Be more specific and concise because of the 102 reference.
explanation of relevance (7 responses)	3rd party should be more careful when looking at what is defined in the claims
	The inclusion by the 3rd party as to what specific claims they believe the claims read upon might be helpful to the Examiner.
	They could explain how they apply to the published claims.
	The description of the submission should provide more specification explaining for specific claimed invention.
	I would suggest the third party would clearly explain the relevancy of the submitted prior art and if foreign prior art is submitted that art is included.
	If we are asking them to write an anticipation or obviousness rejection over the published claims, then they should include claim interpretation, and the rejections themselves. Merely summarizing Takahashi

	or Sahin (which were used in the FOAM) is not helpful.
	A more precise description in relation to claim features would be helpful (e.g., the control system described in col. 1, ln. 3-10 may be relevant to claimed control system).
formatting (4 responses)	The concise explanations should include paragraph, column and line numbers.
	standardized format (charts take more time to interpret)...paragraph form with underlining or identification of column/line is more useful
	It would help if the submissions follow the same format as we used in rejecting the claims. For example, it would help if they address the limitations in order. It would also help to see the rationale to combine of the submitter. In this case, the submitter did not provide any reasons as to why one ordinary skill in the art would combine the three references.
	Organize the submission in IFW better. Merely providing patent numbers in the list of reference and then discussing them using the name is confusing.
improve notification to examiner of submission (2 responses)	Now that I've seen the "concise description" it does look helpful. But I didn't even know it was there because I did not see it in the "prosecution" tab in edan. I didn't even know there was a Third Party Submission.
	A flag that could show up in eDAN, or in the Reference Manager, to signify that a submission has been made would be very helpful. The submissions are very easily lost in other incoming documents and might be overlooked.
Other (7 responses)	Perhaps suggest how it could be used in a possible rejection.
	The limited number of references allows thorough review. Detailed explanation is very helpful.
	Rather than concentrating on what the prior art is capable of doing, they need to address how the prior art anticipates the features of the claimed invention and how the prior art specifically or inherently meets these features.
	maybe rate which of the references is considered most relevant
	If they can limit the number of prior arts to those most close.
	It would be helpful if references provided by the third party and the explanation do not keep up to date with limitations of amended claims.
	Sometimes more detail is needed if 3rd party is providing values that correspond to calculated values, since the 3rd party may actually be an expert in the art.
require mapping to claim language (12 responses)	Need to provide detail explanation on how the disclosure read on the claims when the disclosure does not match with the claim languages.
	Require each element of the claims to be addressed.
	This submission did exactly what I would like to see, in that the relevance of the documents was tied directly to the limitations of the claims.
	require "mapping" to claim language
	For the 3rd party requester to identify where all of the limitations of the claims are disclosed in the submitted references.
	require mapping reference to claim language
	They could specify claims to which the descriptions apply.
	I would request that applicants clearly explain how the teachings of the cited reference are tied to the language of the claims rather than simply providing a general statement as to the contents of the cited reference.
	Greatly discussed above in section 6. *Even the third party submission saves Examiner's search time, the comparison shown in the concise explanations needs further consideration by Examiner. This comparison sometimes requires unexpected amount of time and efforts. It would be better if they provide itemized matches of claimed elements in the concise explanation.*
	Require 3rd party to point to specific passages which are relevant, or indicate that the whole document is relevant, if that is the case.
	The clear mapping of the submitted material to the instant application presented in this concise

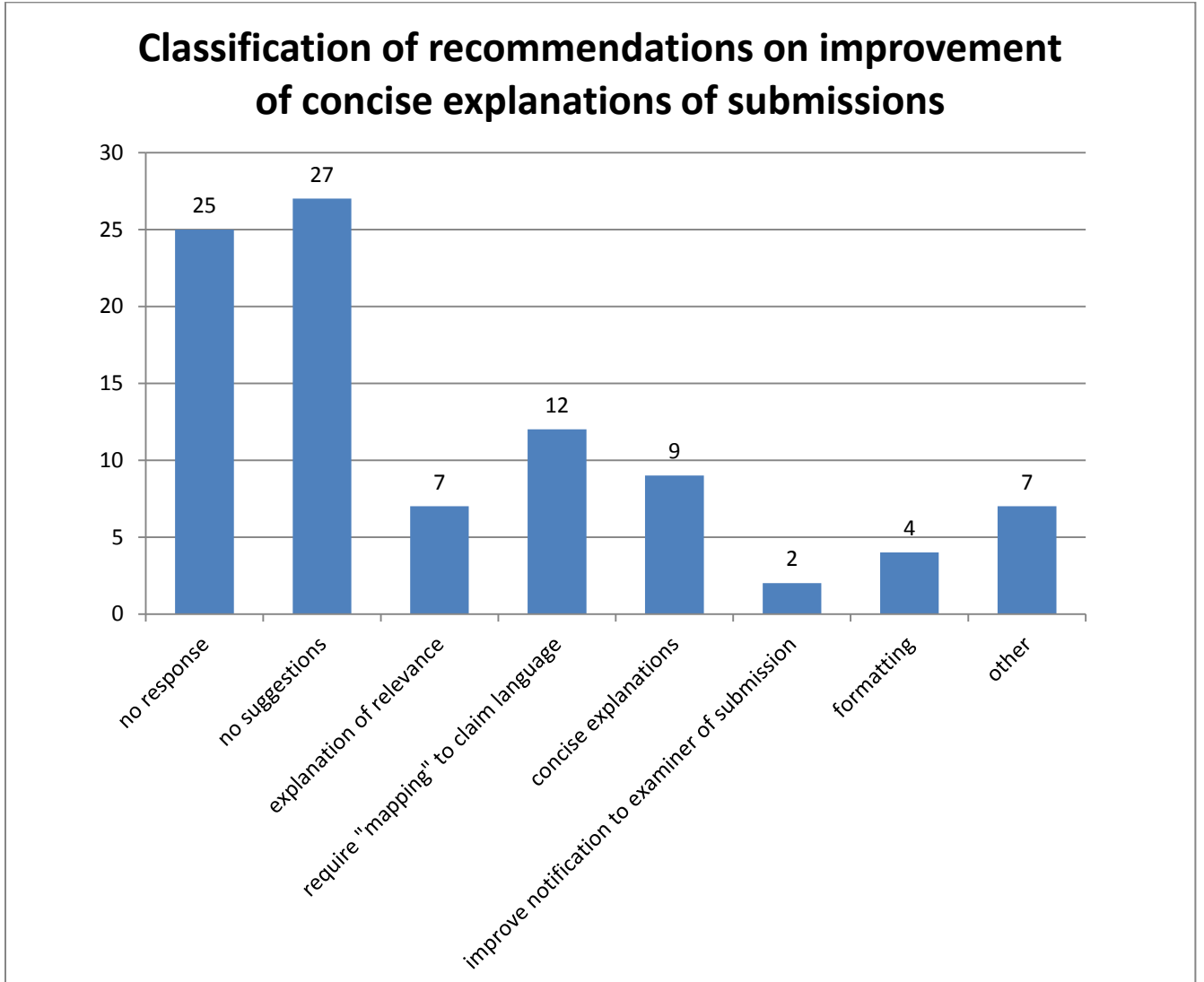|	description was very helpful.
	All pending claims should be cross referenced with pertinent parts of the submission and if the submission has no relevance to certain claims, an admission of said should be made.

Classification of recommendations on improvement of concise explanations of submissions

Figure F.9: Pie chart of classification summary in Question 8

Question 9: Other comments? (e.g. the 3rd party submission identified a new area to search)

Table F.10: Classification of responses in Question 9

Classification in pie chart	Response
No response (39 responses)	left blank
No suggestions (6 responses)	No.
	Not at all.
	None

	No comments
	None
	None
additional training and resources needed for examiner (5 responses)	This was the first time I had seen a 3rd party submission as an Examiner and had never prepared one as a practitioner. I did not see a form paragraph to be used in the FAOM to identify that I considered the 3rd party IDS. I developed my own paragraph because I thought it important to inform applicant of this IDS. If many of these documents are submitted in the future, it may be appropriate to provide guidance and/or form paragraphs to assist the Examiner.
	provide training for the examiner in this area and flag these cases so the examiner is aware of the submission. Submission should be separated from regular IDS as consideration was needed in this case for the office action to be posted for credit.
	Clarify whether or not it is necessary for examiner to initial the individual references on the PTO/SB/429. My case took almost one month to get mailed due to the lack of indication that initials are necessary on the 429 form, and the insistence by the mailroom that the each reference be initialed, as with a 1449. Overall, I think the 3rd party submission is a good idea.
	There is still appears to be a lot of confusion regarding how a third party submission is to be treated. For example: A) the people in Issue branch that review the signed and dated copy of PTO429 that are mailed to Applicant believe that these third party listing are to be treated by the Examiner as outlined in MPEP 609 and not as as specified in MPEP 1134.01 as set forth in MPEP 609 because section 609 directs the Examiner to MPEP section 1100. B) because section 1134 of the MPEP deals with statutory invention registrations, it is not clear why section 1134.01 sets forth how to process a third party art submission. C) it is also unclear, from MPEP 1134.01(IV)(C) whether or not:(1) a document that, from the record, has been previously cited and considered by the Examiner, see the comment for question 3 above, has in fact been considered by the Examiner with respect to the third party submission when the Examiner is required to consider compliant third party submissions. (2) a document that, from the record, has been previously been cited and initialed once on a PTO SB08 (PTO1449) or cited by the Examiner on a PTO892 and therefore has been considered by the Examiner and/or Applicant to be some how relevant to the claimed invention, see the comment for question 3 above, need to once again be cited, as a DUPLICATE citation, on another PTO892 as set forth in MPEP 1134.01 when the Examiner treats the compliant third party submissions.
	Exactly how to address and process the third party art submission is unclear. In this regard it is noted that the PTO requires the Examiner to consider each cited document, while MPEP 1134 indicates that the Examiner is not to initial the citations and Applicant must submit a PTO SB08 in order for the submitted art to be considered by the Examiner, see form paragraph number 6.56.
did not help identify any additional resources (6 responses)	The third party submission does not identify a new area to search.
	The third party submission does not identify a new area to search.
	The submission is useful in that it draws attention to a particular reference; however, I would've come across the reference in a general class/subclass search. I think that references found outside of the anticipated class/subclass or npl would be more beneficial since they'd shed light on areas that may not be found in a typical search.
	The 3rd party submission in this case simply confirmed that a thorough and complete search had been done.
	This third party submission was originally considered for the FAOM, which was mailed in March 2013. As a result, my memory on it may not be entirely clear, especially on the time spent reviewing it. Reference #3 was used for a limitation in a dependent claim which would have been indicated as allowable subject matter without the third party submission. The concise description was directed only to the independent claim. So, even though the reference was very useful, it was for reasons not discussed by the third party.
	The submission made me suspicious when only 11 of 36 claims were used to identify pertinent parts of a document considered "Prior Art".
identified additional	Brought attention to references that probably would not have been found through typical EAST search methods.

resources	
(8 responses)	The third part submission was helpful in finding additional prior art, especially when forward and backward citing the reference in the 3rd Party Submission.
	The 3rd party submissions identified alternative class and subclasses for me to search.
	The time is an estimate that includes reading the references provided; also, as I did this a month and a half ago I don't remember exactly how much time I spent. If all third party submissions are as helpful as the ones in this case, I hope I see more of them. This was also the first case in over 6 years of examining in the same AU that I had in this subclass, so it was particularly helpful for what was essentially a new art to me.
	third party submission potentially provides additional art and may broaden the search strategy
	The 3rd party submission gave me a good starting point in my search and learning the state of the art.
	By checking the third party submission, it does provides new search both in class and text for the particular limitation of the claim, but the new search will not necessarily leads us to a good art.
	The third party submission provided an additional reference that could be forward and backward searched to better identify prior art.
improve notifiactin to examiner of submission	3rd party submission looks helpful but it should be included in the prosecution tab or there should be another way to alert the examiner that there is a 3rd party submission available for the case. I didn't even know it was there.
(3 responses)	It would be helpful if the cases with third party submissions are somehow flagged in eDan. I actually didn't notice it until I had already begun my EAST search.
	It's a very helpful tool, would just be better if it was more obvious when a submission was made.
Other	These types of submissions should be limited in "Special" time sensitive cases. In this case, I had to read and prepare the arguments based on the references and arguments submitted, make an interview request, argue the points with the Applicant, reconsider in light of the arguments by reviewing the claims and the prior arts again and send the next action. This took more than the 3 hours that I have for an after first rejection action and took more time in the "Special" case.
	These types of submissions should be limited in "Special" time sensitive cases. In this case, I had to read and prepare the arguments based on the references and arguments submitted, make an interview request, argue the points with the Applicant, reconsider in light of the arguments by reviewing the claims and the prior arts again and send the next action. This took about 1 hour, because I was also examining the sister case with substantially similar claims). Nevertheless, the time it took to negotiate both cases in light of the third party submission wrinkle, pushed the prosecution of this case over the 12 months target.
(11 responses)	I think the attorney did a good job in summarizing most of the 9 NPL references submitted as part of the Third Party submission.
	The submitted references captured some relevant parts of the claims in a literal sense, but failed to fully appreciate a critical aspect of the claims. As such, other prior art that was considered to better disclose the sweetness enhancing effect at issue was used in the prior art rejections as opposed to the prior art submitted by the third party.
	The submitted references captured some relevant parts of the claims in a literal sense, but prior art that was considered more relevant based on its overall disclosure was ultimately determined to better support a prior art rejection than the prior art submitted by the third party.
	The concise description was adequate.
	In this case the 3rd party submission did not provide any additional information that was not already disclosed by the Applicant, but appeared to be an attempt by a competitor to provide a rationale for rejecting the application.
	Be more specific and concise and identify a new area to search.
	Perhaps list relevant class and subclass.
	I worry that 3rd party submissions may result in the disintermediation of examiners. <grin>

|	The third party submission was useful, but a reference that read on the claims, but had an older prior art date was applied.
provided more interpretation	Third party explanation would help a new interpretation of the reference and the claims as well.
(3 responses)	3rd party submissions are helpful not only in understanding the art but also in providing various relevant interpretations of the submitted application.
	The reference gave me another interpretation of the art.
submission was helpful	I think the format in which the concise description of the submission was straight forward and easy to decipher.
(7 responses)	3rd party submission was helpful in considering/identifying possible motivation statements for 103 rejections.
	Although I had previously viewed the majority of the documents cited, I was able to go back and view the documents based on the concise descriptions by the 3rd party to determine their applicability to the claims.
	i think the 3rd party submission is very helpful and therefore, all Applicant should do so.
	The 3rd party submission is good and may help me in the future as prosecution proceeds and there are more amendments around the prior art of record by applicants.
	No need to improve with respect to my case. The Third Party Submissions are excellent.
	The 3rd party submission strengthened my rejection of the application, which was extremely useful because it was going into appeal proceedings, and I was able to present a stronger case in my pre-appeal response.
time constraints	These 2 submission have not been considered yet because they crossed in the mail with the final office action. These 2 submissions will be considered when responding to the RCE.
(5 responses)	I did not consider these references during examination as the occurred after I had finished typing the final office action and the case has since been appealed.
	I believe that the third party submission would have been useful, had the application not been abandoned. However, the pertinent fields of search that were identified in the submission had already been searched in formulating the original rejection.
	Again, the timing on the arrival of the TPS (when I was finishing the office action) resulted in not utilizing the description that was provided. I did have access to the reference since it was incorporated in the application.
	The third party submission was good and helped identify very relevant prior art, but I received the 3rd party submission after I had already written a FAOM and my final rejection. It will most likely be helpful should the Applicant decide to file an RCE.

Classification of responses to open-ended comments
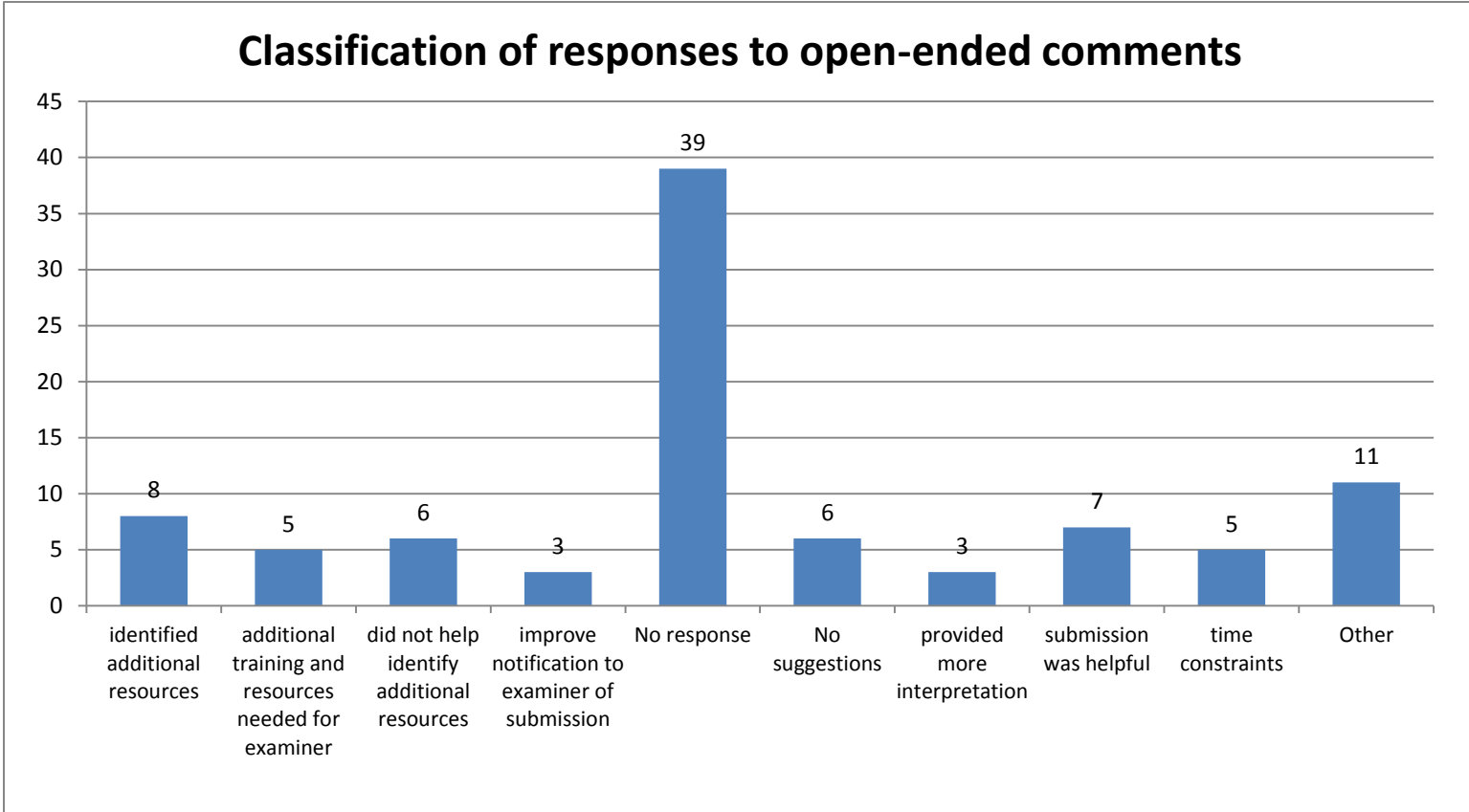
Figure F.10: Pie chart of comments classifications in Question 9

Appendix F.1.2 Relationships of Data

Crosstabulation of Question 4 and Question 5

Table F.11: Crosstabulation Table of Question 4 and Question 5

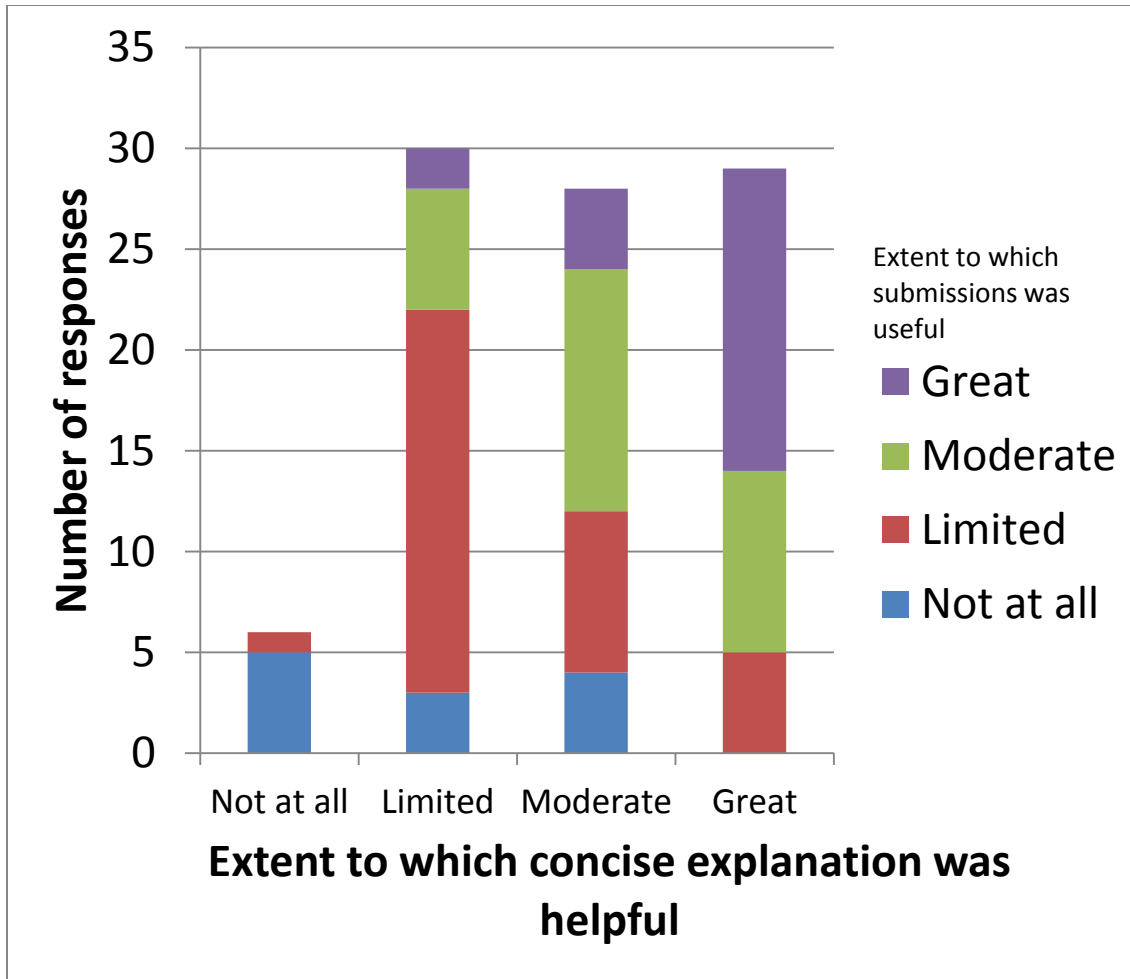|		Q5_Concise				Total
		Not at All	Limited Extent	Moderate Extent	Great Extent	
		Count	Count	Count	Count	Count
Q4_Useful	Not at All	5	3	4	0	12
	Limited Extent	1	19	8	5	33
	Moderate Extent	0	6	12	9	27
	Great Extent	0	2	4	15	21
	Total	6	30	28	29	93

Figure F.11: Crosstabulation Graph of Question 4 and Question 5

Crosstabulation of Question 4 and Question 6

Table F.12: Crosstabulation Table of Question 4 and Question 6

		Q6_Impact				
		Saved Time	No Impact	More Time	Other	Total
		Count	Count	Count	Count	Count
Q4_Useful	Not at All	2	4	4	2	12
	Limited Extent	15	6	11	1	33
	Moderate Extent	11	7	8	1	27
	Great Extent	16	4	1	0	21
	Total	44	21	24	4	93
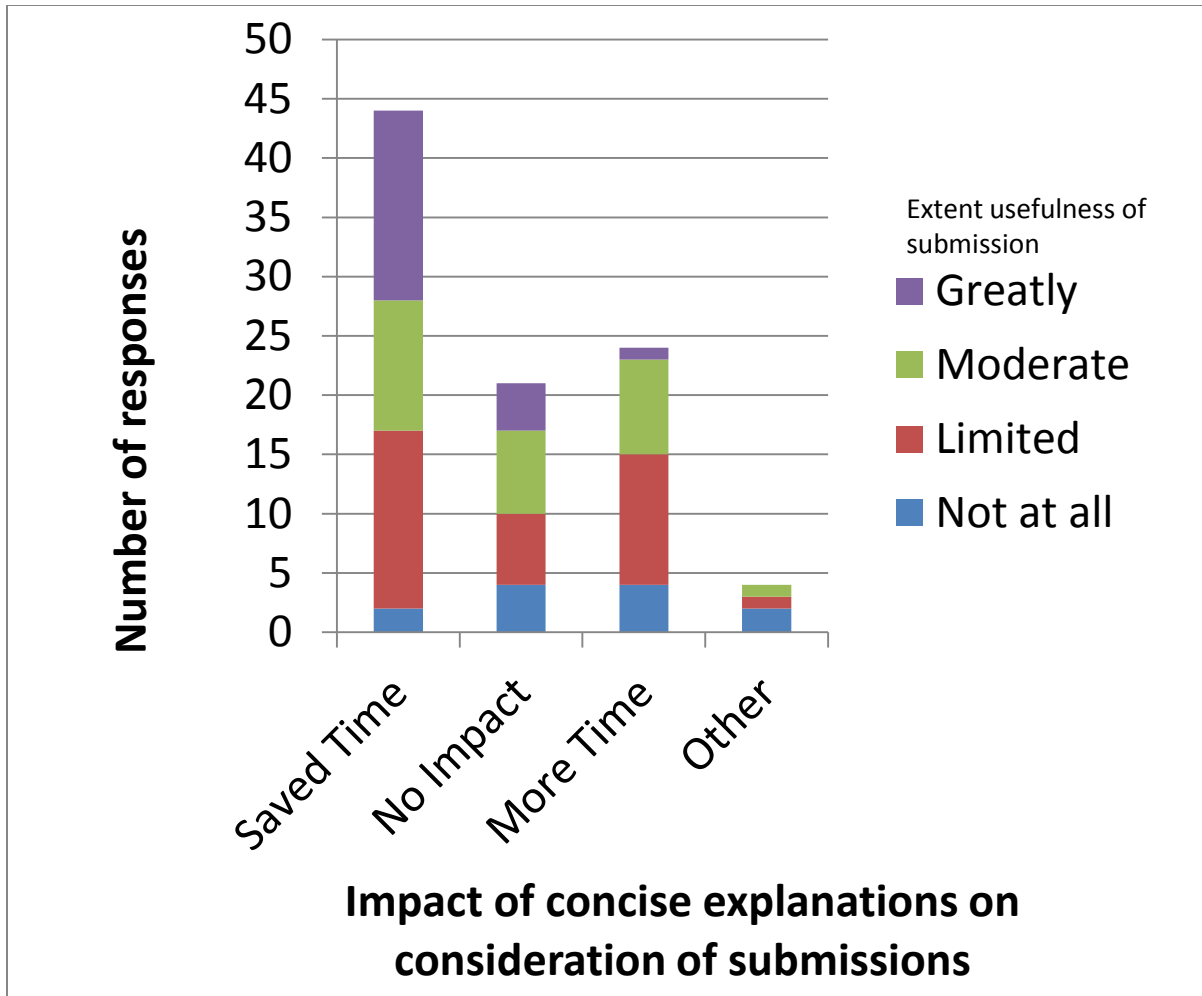
Figure F.12: Crosstabulation Graph of Question 4 and Question 6

Crosstabulation of Question 5 and Question 6

Table F.13: Crosstabulation Table of Question 5 and Question 6

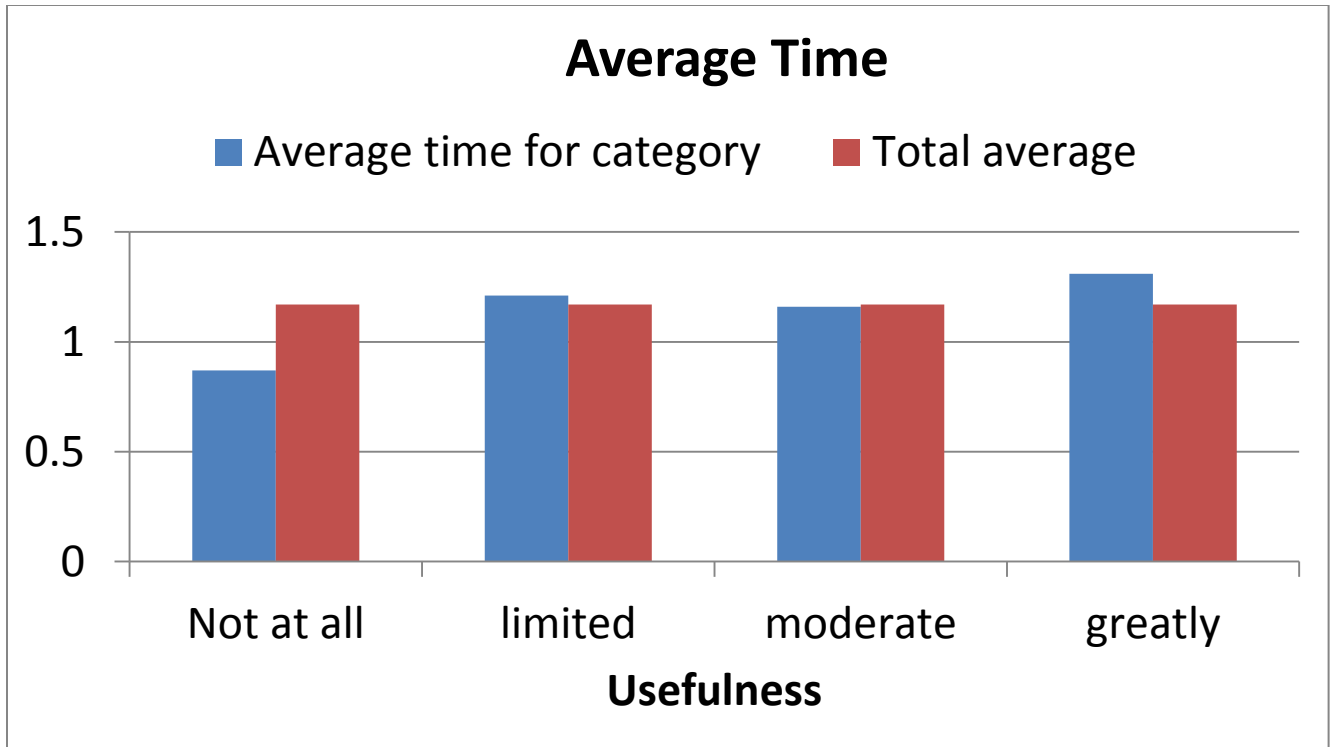|		Q6_Impact				
		Saved Time	No Impact	More Time	Other	Total
		Count	Count	Count	Count	Count
Q5_Concise	Not at All	1	2	2	1	6
	Limited Extent	9	6	14	1	30
	Moderate Extent	13	8	6	1	28
	Great Extent	21	5	2	1	29
	Total	44	21	24	4	93

Figure F.13: Comparing Q5 and Q6 averages

Crosstabulation of Question 4 and Question 7

Table F.14: Crosstabulation Table 1 of Question 4 and Question 7

		TotalTime			
		<=0.5 hours	>0.5 to 1.0 hours	> 1.0 hours	Total
		Count	Count	Count	Count
Q4_Useful	Not at All	5	6	1	12
	Limited Extent	9	14	10	33
	Moderate Extent	10	8	9	27
	Great Extent	6	6	9	21
	Total	30	34	29	93

Table F.15: Crosstabulation Table 2 of Question 4 and Question 7

		Total time (hours)					
		Mean	Standard Error of Mean	Count	Median	Percentile 75	Percentile 95
Q4_Useful	Not at All	.87	.27	12	1.00	1.00	3.50
	Limited Extent	1.21	.14	33	1.00	2.00	2.00
	Moderate Extent	1.16	.19	27	1.00	2.00	3.00
	Great Extent	1.31	.17	21	1.00	2.00	2.50

| Total | 1.17 | .09 | 93 | 1.00 | 2.00 | 3.00 |

Table F.16 Data Table of Question 4 and Question 7

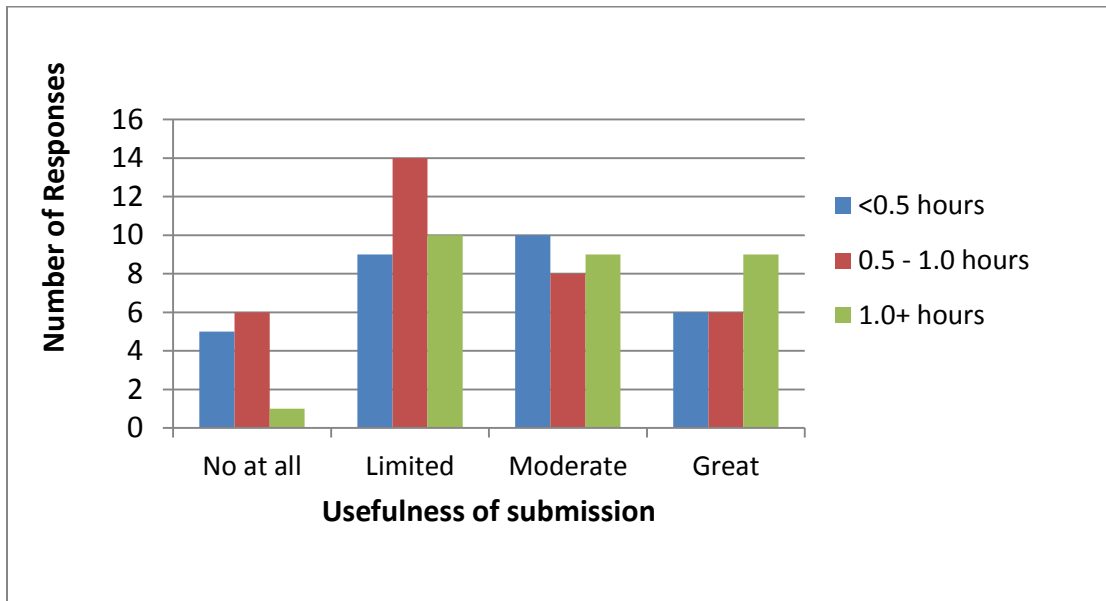| Extent Useful	Highest Percentage	Hour range
Great	42.9%	1+ hours
Moderate	37%	<0.5 hours
Limited	42.4%	0.5 - 1.0 hours
Not at all	50%	0.5 – 1.0 hours

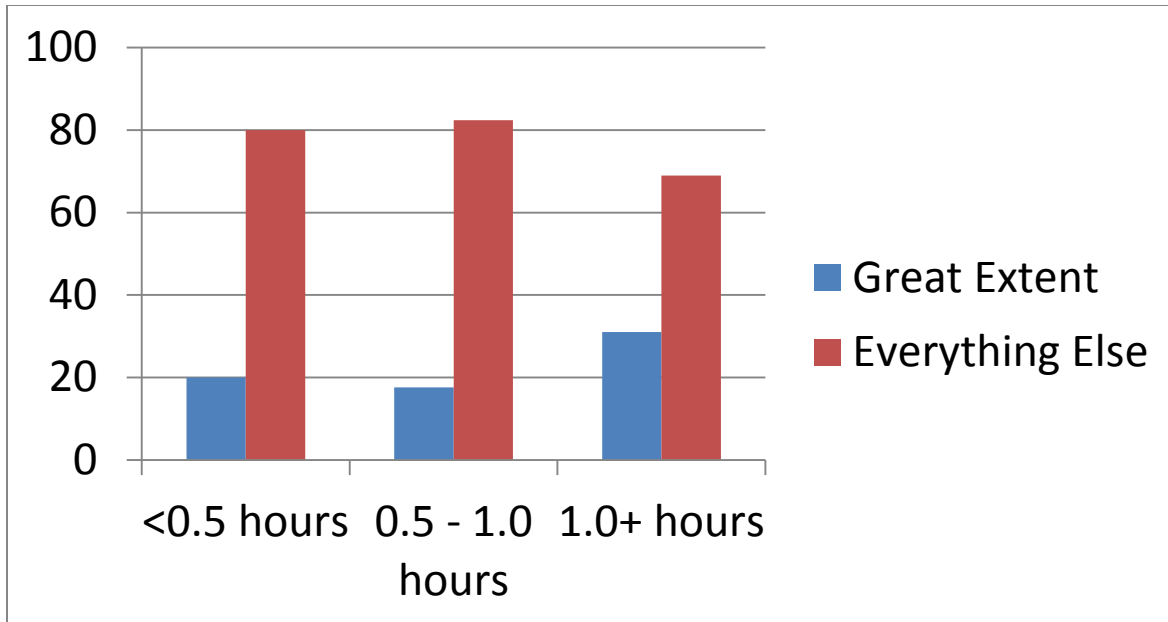Figure F.14: Crosstabulation Graph of Question 4 and Question 7

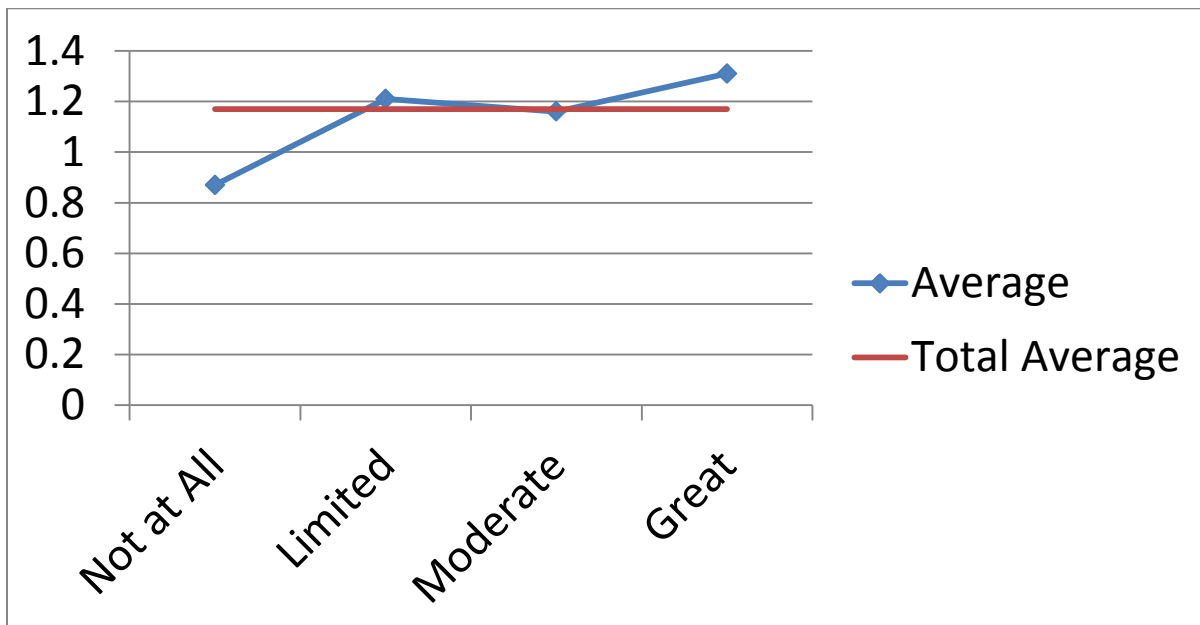Figure F.15: Comparing Question 4 and Question 7

Figure F.16: Question 7 average and Question 4

Crosstabulation of Question 5 and Question 7

Table F.17: Crosstabulation Table 1 of Question 5 and Question 7

		TotalTime			
		<=0.5 hours	>0.5 to 1.0 hours	> 1.0 hours	Total
		Count	Count	Count	Count
Q5_Concise	Not at All	1	5	0	6

Limited Extent	10	11	9	30
Moderate Extent	8	9	11	28
Great Extent	11	9	9	29
Total	30	34	29	93

Table F.18: Crosstabulation Table 2 of Question 5 and Question 7

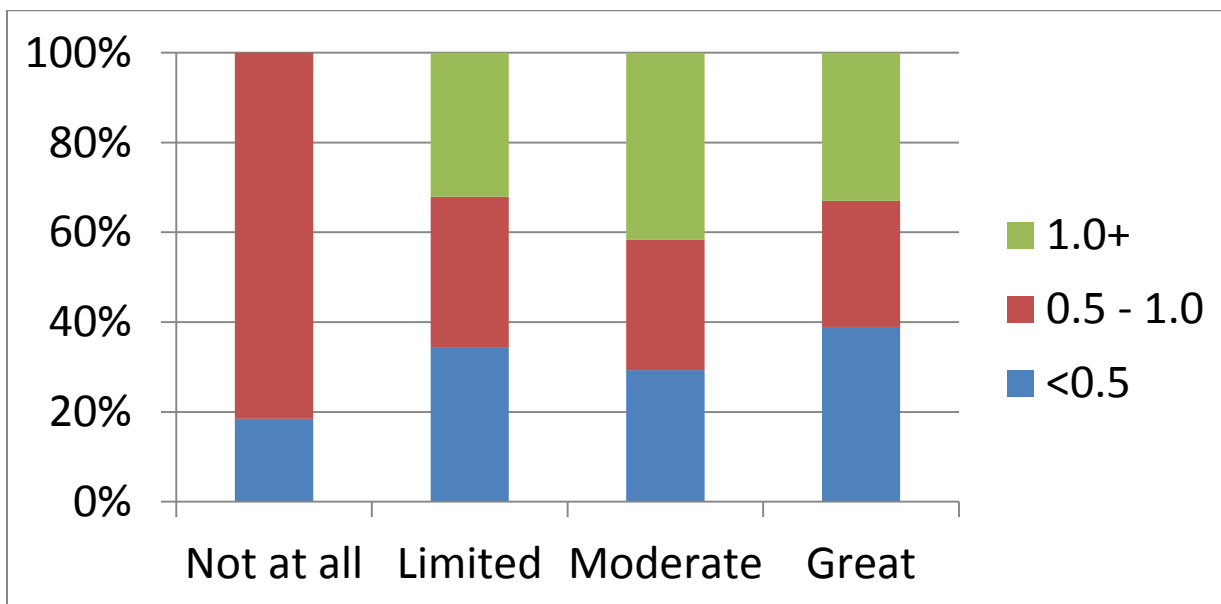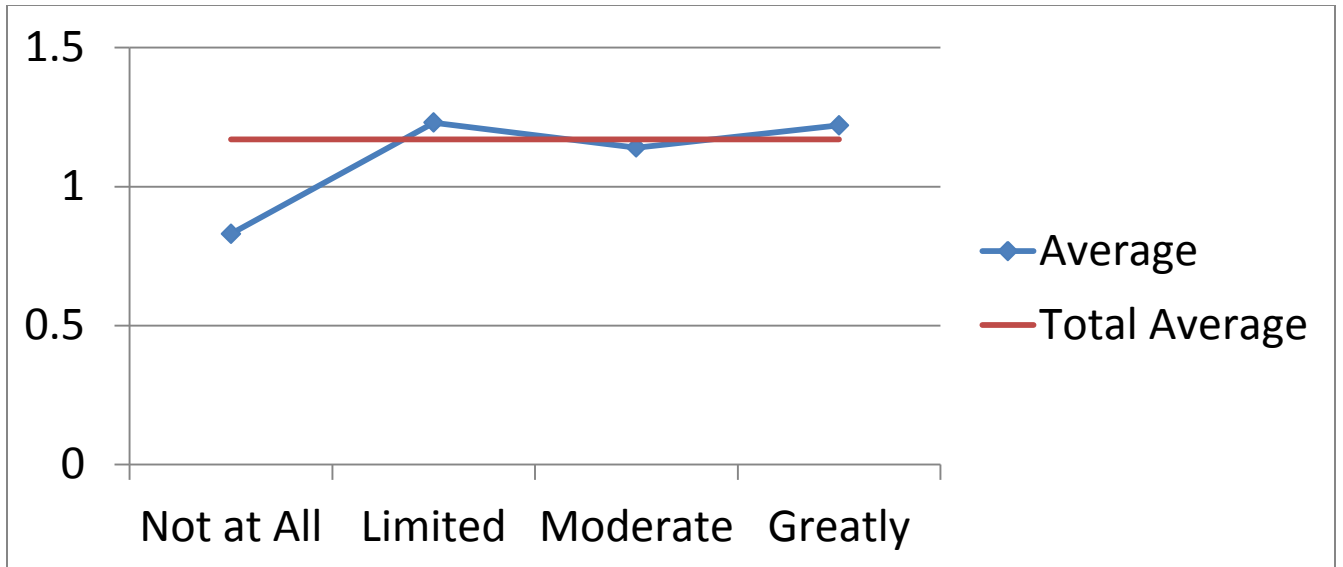|		Total time (hours)					
		Mean	Standard Error of Mean	Count	Median	Percentile 75	Percentile 95
Q5_Concise	Not at All	.83	.17	6	1.00	1.00	1.00
	Limited Extent	1.23	.18	30	1.00	2.00	3.50
	Moderate Extent	1.14	.13	28	1.00	2.00	2.00
	Great Extent	1.22	.18	29	1.00	2.00	3.00
	Total	1.17	.09	93	1.00	2.00	3.00

Figure F.17: Question 7 and Question 5

Figure F.18: Question 7 average and Question 5

Crosstabulation of Question 6 and Question 7

Table F.19: Crosstabulation Table 1 of Question 6 and Question 7

		TotalTime			
		<=0.5 hours	>0.5 to 1.0 hours	> 1.0 hours	Total
		Count	Count	Count	Count
Q6_Impact	Saved Time	14	17	13	44
	No Impact	9	8	4	21
	More Time	6	7	11	24
	Other	1	2	1	4
	Total	30	34	29	93

Table F.20: Crosstabulation Table 2 of Question 6 and Question 7

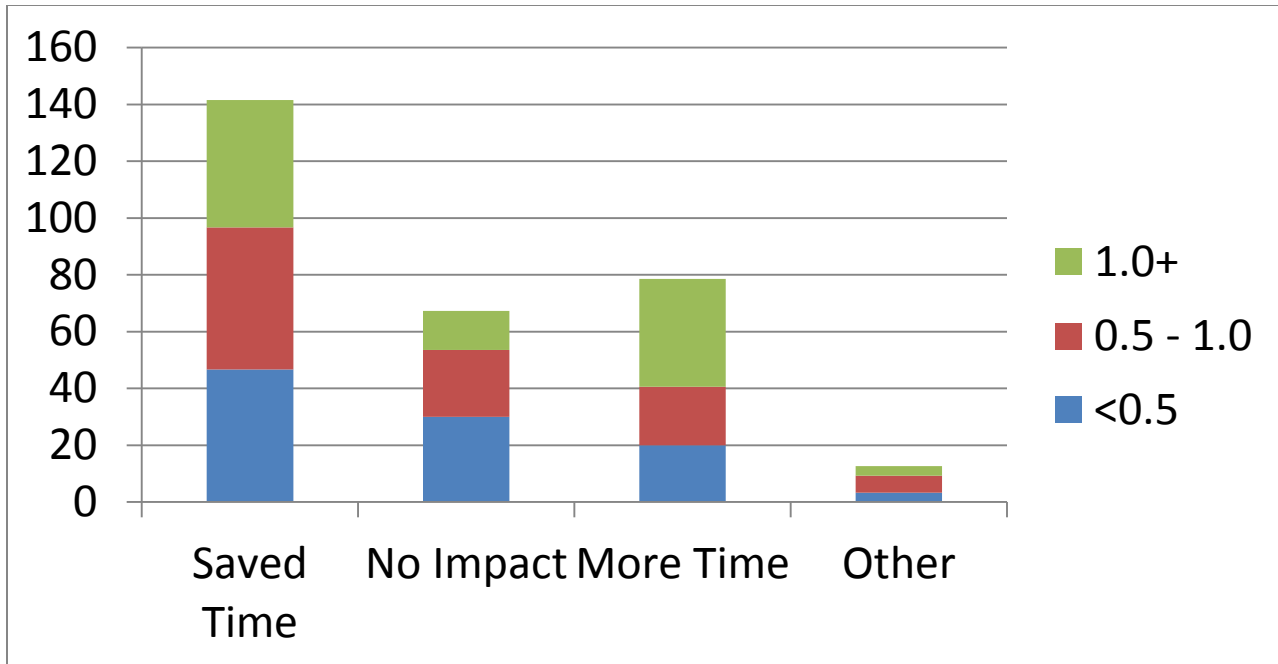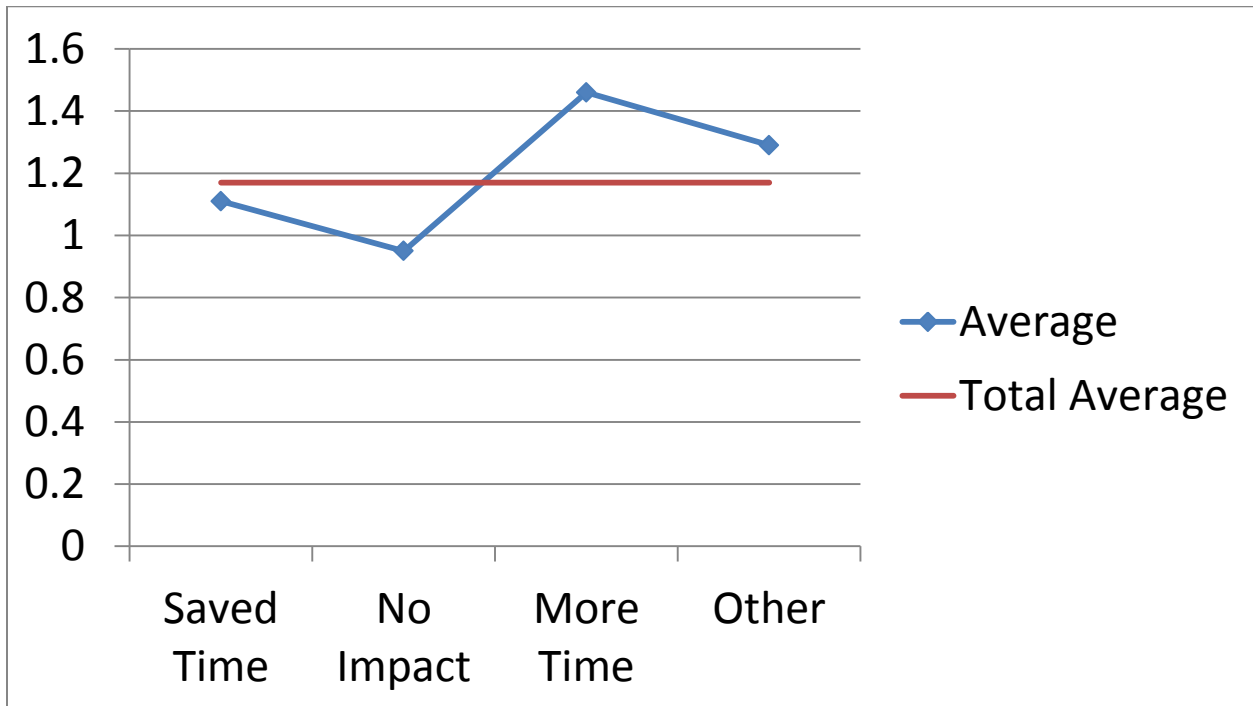|		Total time (hours)					
		Mean	Standard Error of Mean	Count	Median	Percentile 75	Percentile 95
Q6_Impact	Saved Time	1.11	.11	44	1.00	2.00	2.00
	No Impact	.95	.16	21	1.00	1.00	2.00
	More Time	1.46	.23	24	1.00	2.00	4.00
	Other	1.29	.60	4	1.00	2.00	3.00
	Total	1.17	.09	93	1.00	2.00	3.00

Figure F.19: Question 7 and Question 6

Figure F.20: Question 7 average and Question 6

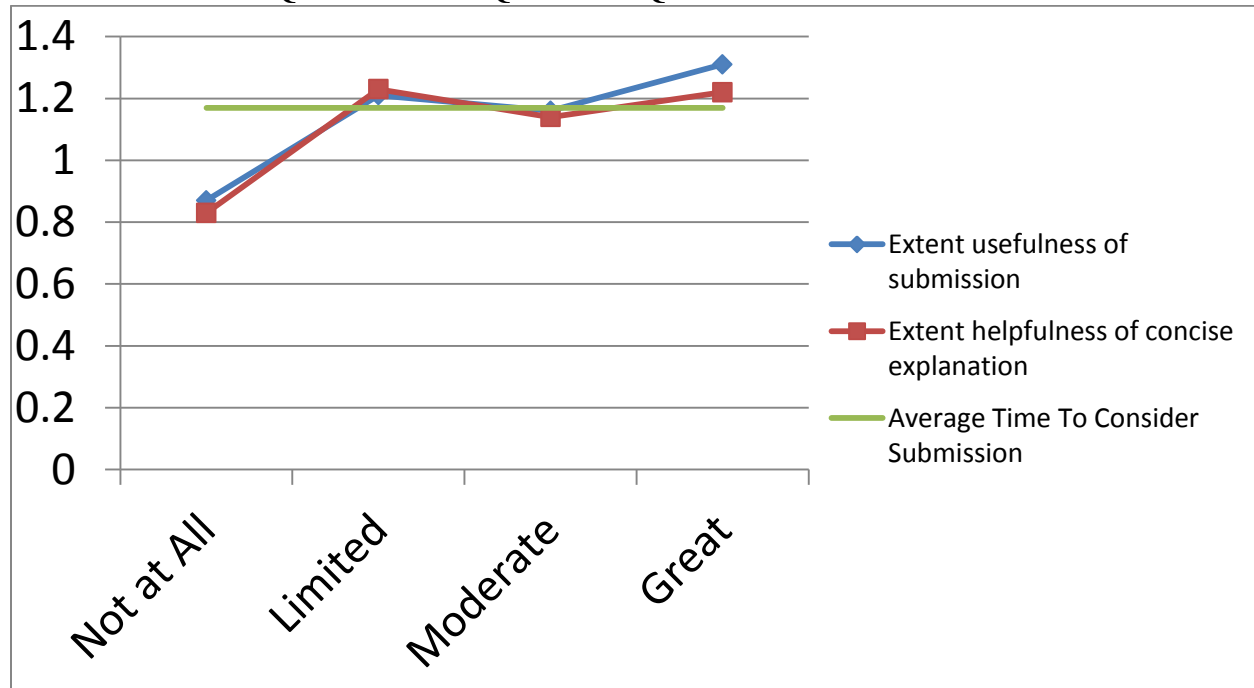## Crosstabulation of Question 7 and Question 4/Question 5

Figure F.21: Question 7, Question 4, and Question 5 averages

Crosstabulation of Question 2 and Question 4

Table F.21: Crosstabulation Table 1 of Question 2 and Question 4

		References_Category					Total
		1	2	3	4-6	7+	Total
		Count	Count	Count	Count	Count	Count
Q4_Useful	Not at All	2	1	3	5	1	12
	Limited Extent	2	11	10	5	5	33
	Moderate Extent	6	5	6	5	5	27
	Great Extent	6	5	1	4	5	21
	Total	16	22	20	19	16	93

Table F.22: Crosstabulation Table 2 of Question 2 and Question 4

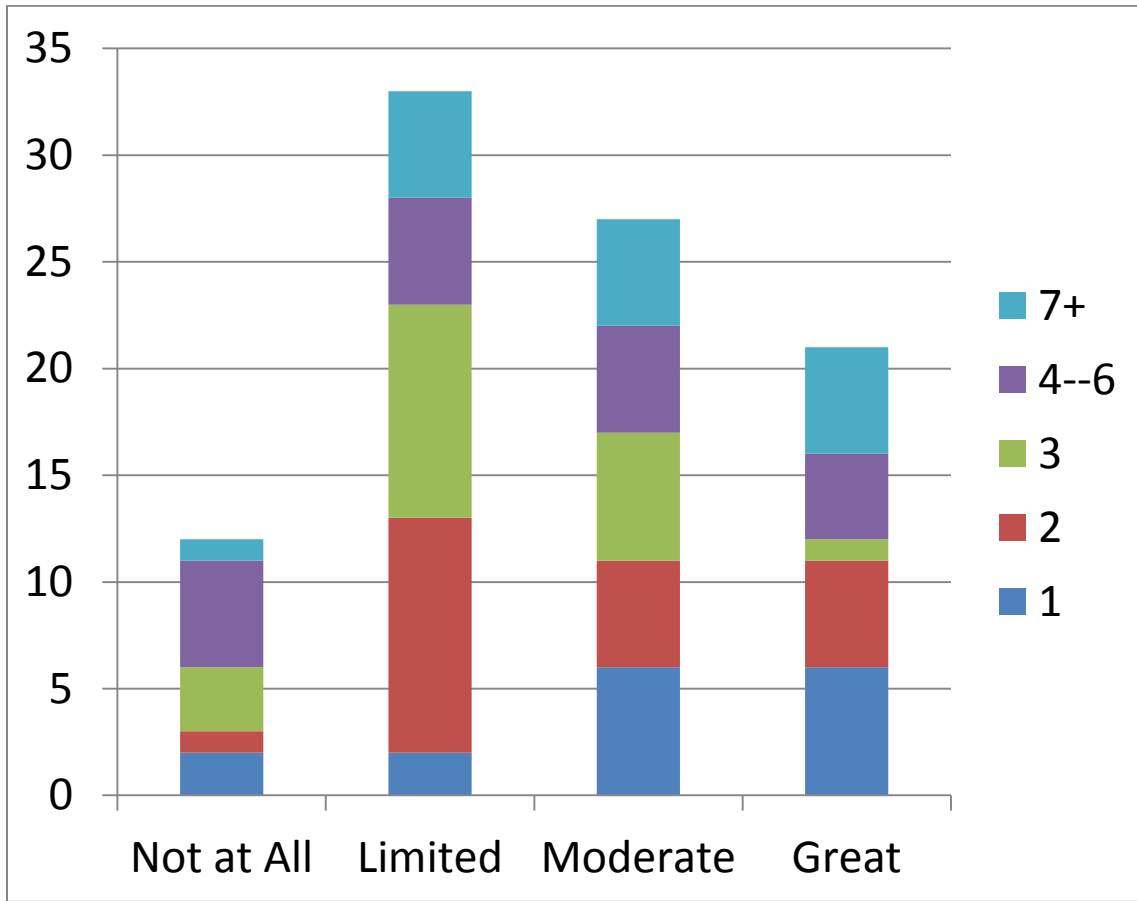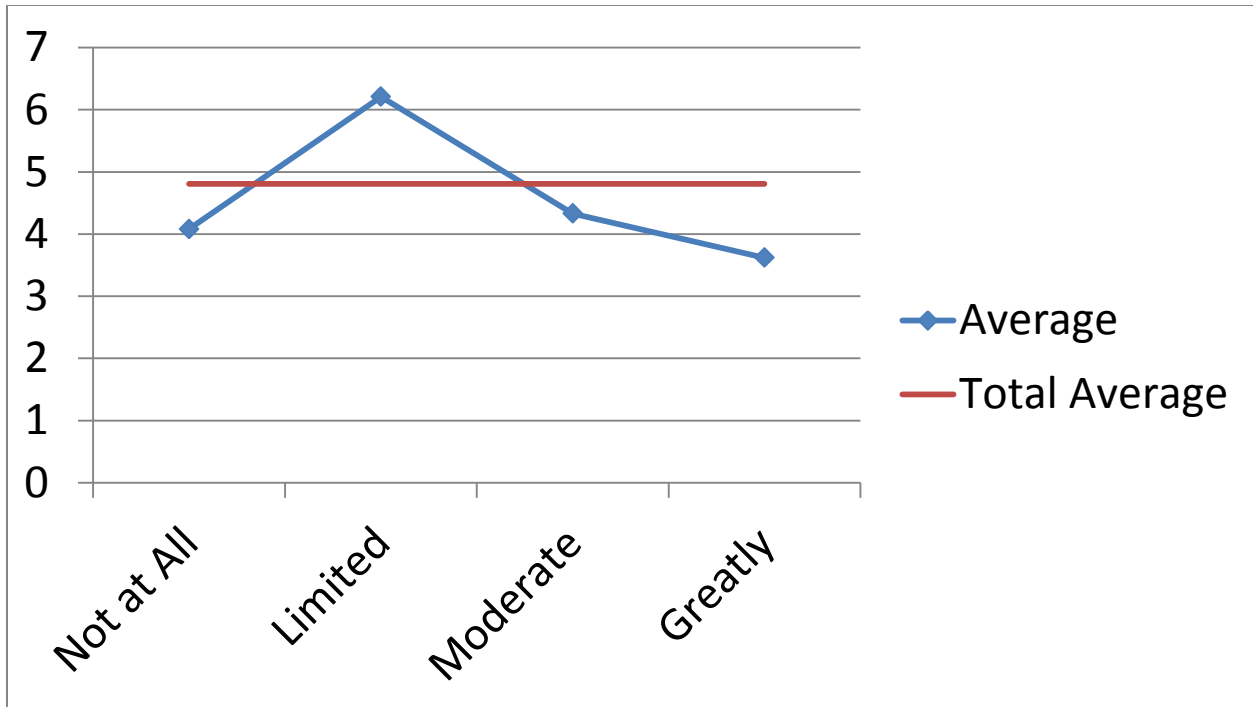|		References					
		Mean	Standard Error of Mean	Count	Median	Percentile 75	Percentile 95
Q4_Useful	Not at All	4.08	.92	12	3.50	4.50	13.00
	Limited Extent	6.21	2.74	33	3.00	5.00	9.00
	Moderate Extent	4.33	.91	27	3.00	5.00	10.00
	Great Extent	3.62	.58	21	2.00	6.00	7.00
	Total	4.81	1.02	93	3.00	5.00	9.00

Figure F.22: Question 2 and Question 4

Figure F.23: Question 2 average and Question 4

Crosstabulation of Question 2 and Question 5

Table F.23: Crosstabulation Table 1 of Question 2 and Question 5

		References_Category					Total
		1	2	3	4-6	7+	
		Count	Count	Count	Count	Count	Count
Q5_Concise	Not at All	1	0	2	2	1	6
	Limited Extent	4	9	5	5	7	30
	Moderate Extent	5	6	7	9	1	28
	Great Extent	6	7	6	3	7	29
	Total	16	22	20	19	16	93

Table F.24: Crosstabulation Table 2 of Question 2 and Question 5

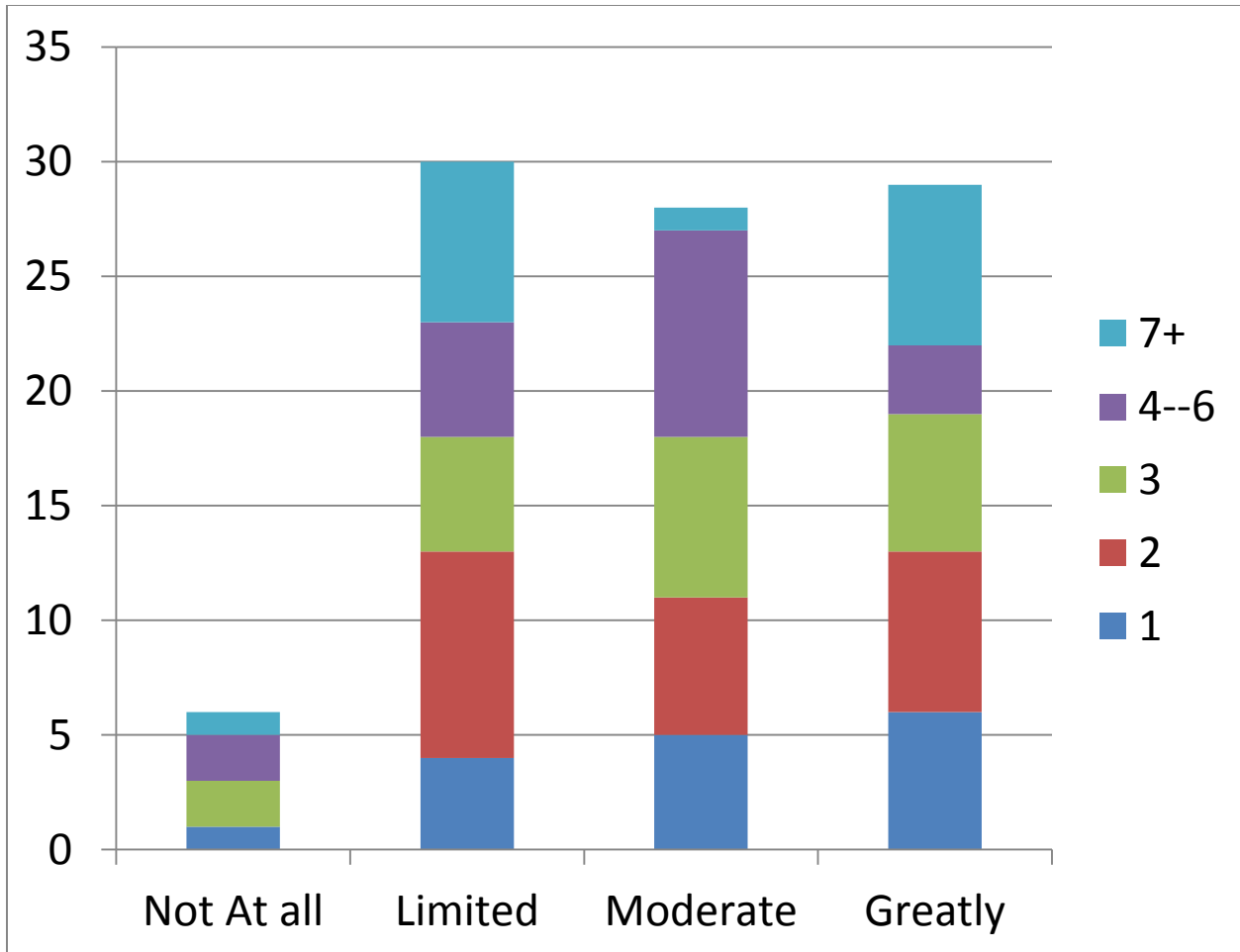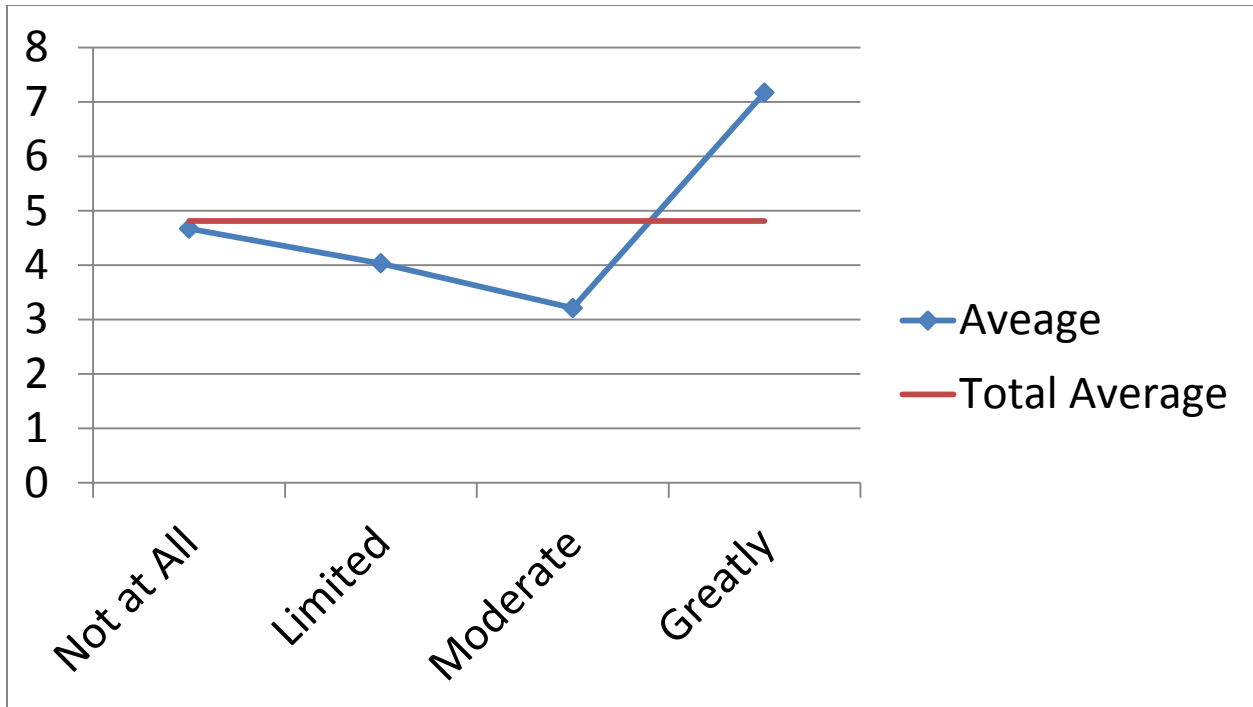|		References					
		Mean	Standard Error of Mean	Count	Median	Percentile 75	Percentile 95
Q5_Concise	Not at All	4.67	1.73	6	3.50	4.00	13.00
	Limited Extent	4.03	.50	30	3.00	6.00	9.00
	Moderate Extent	3.21	.37	28	3.00	4.00	6.00
	Great Extent	7.17	3.17	29	3.00	6.00	24.00
	Total	4.81	1.02	93	3.00	5.00	9.00

Figure F.24: Question 2 and Question 5

Figure F.25: Question 2 average and Question 5 average

Crosstabulation of Question 2 and Question 6

Table F.25: Crosstabulation Table 1 of Question 2 and Question 6

		References_Category					Total
		1	2	3	4-6	7+	
		Count	Count	Count	Count	Count	Count
Q6_Impact	Saved Time	6	12	10	10	6	44
	No Impact	4	2	4	4	7	21
	More Time	5	8	4	5	2	24
	Other	1	0	2	0	1	4
	Total	16	22	20	19	16	93

Table F.26: Crosstabulation Table 2 of Question 2 and Question 6

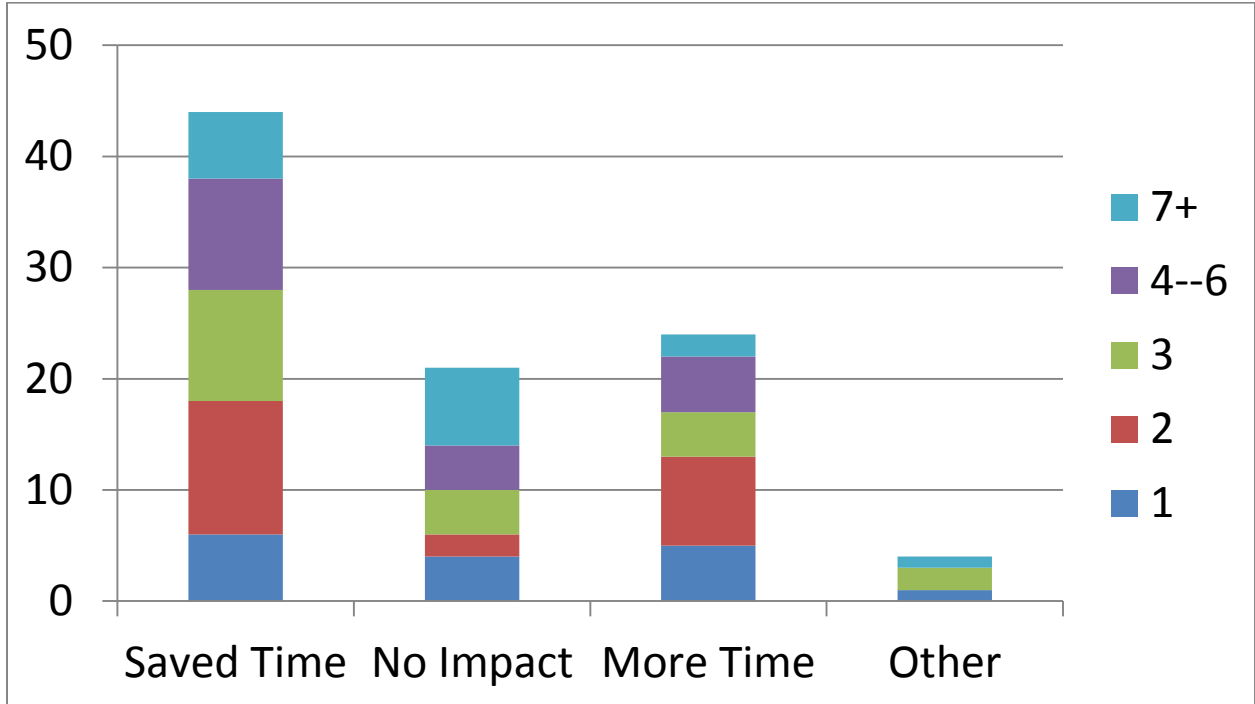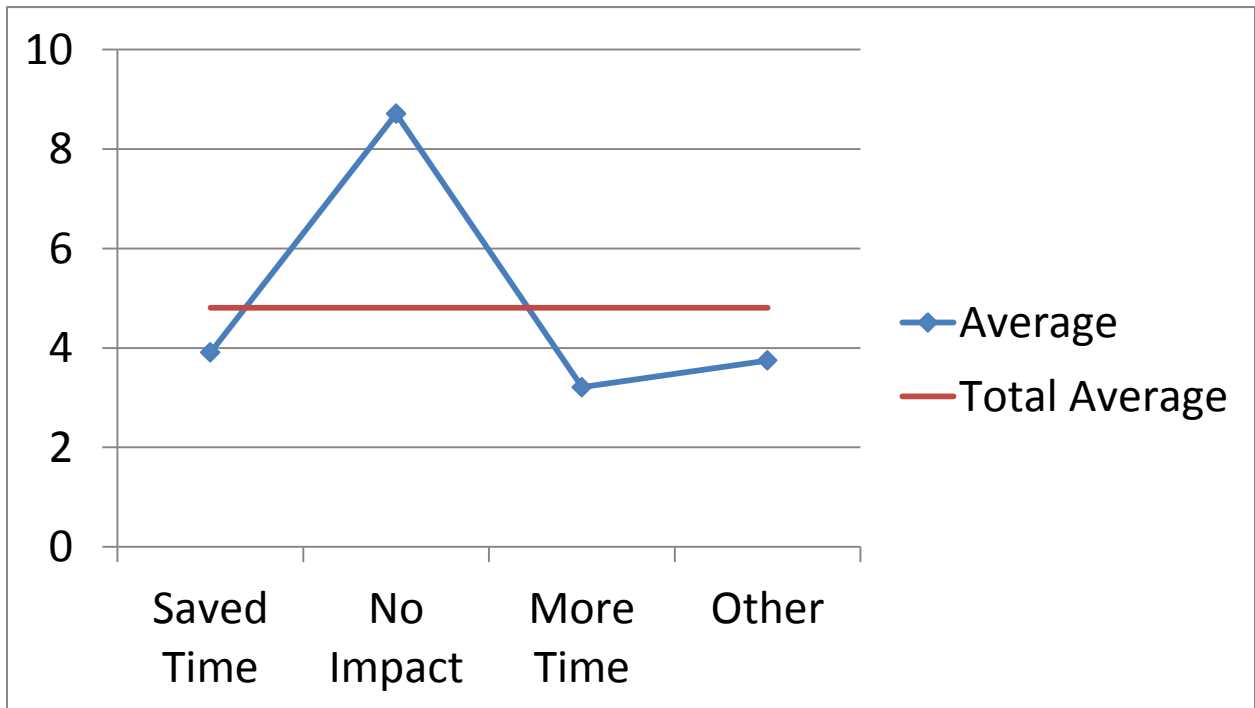|		References					
		Mean	Standard Error of Mean	Count	Median	Percentile 75	Percentile 95
Q6_Impact	Saved Time	3.91	.56	44	3.00	5.00	9.00
	No Impact	8.71	4.27	21	4.00	7.00	13.00
	More Time	3.21	.49	24	2.00	4.50	9.00
	Other	3.75	1.49	4	3.00	5.50	8.00
	Total	4.81	1.02	93	3.00	5.00	9.00

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Figure F.26: Question 2 and Question 6

Figure F.27: Question 2 and Question 6 averages

Crosstabulation of Question 2 and Question 7

Table F.27: Crosstabulation Table 1 of Question 2 and Question 7

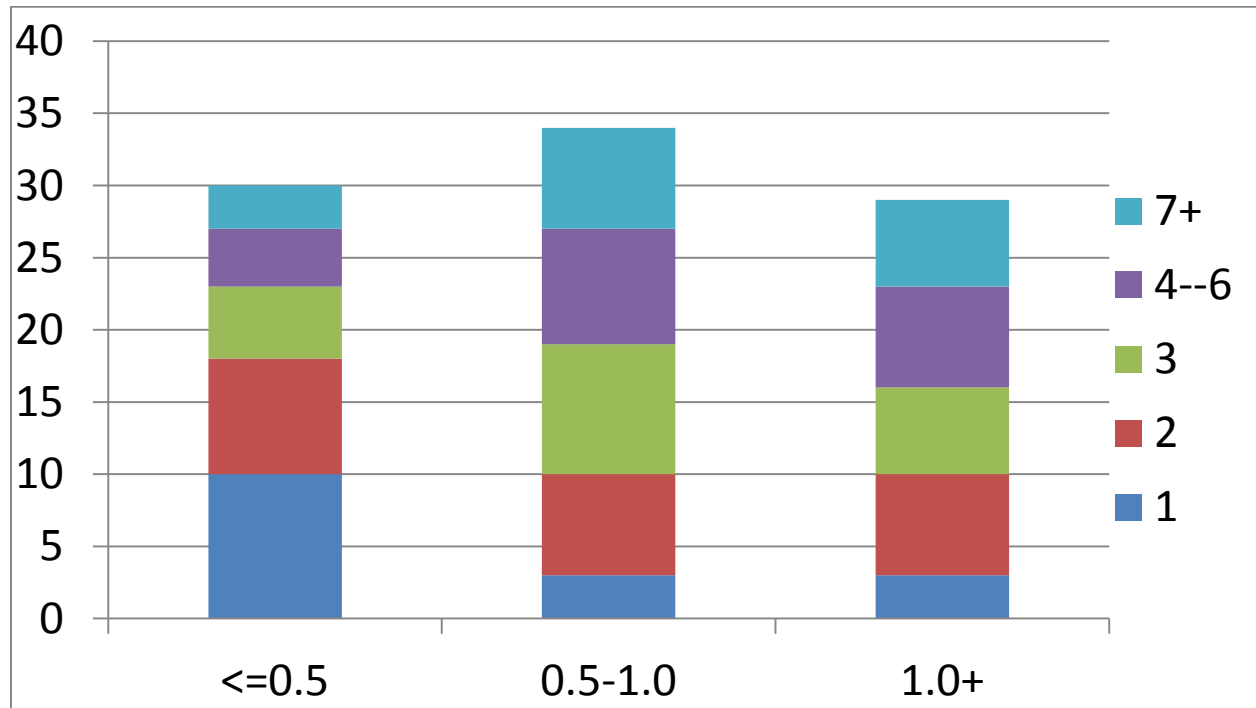|		References_Category					Total
		1	2	3	4-6	7+	
		Count	Count	Count	Count	Count	Count
TotalTime	<=0.5 hours	10	8	5	4	3	30
	>0.5 to 1.0 hours	3	7	9	8	7	34
	> 1.0 hours	3	7	6	7	6	29
	Total	16	22	20	19	16	93

Figure F.28: Question 2 and Question 7
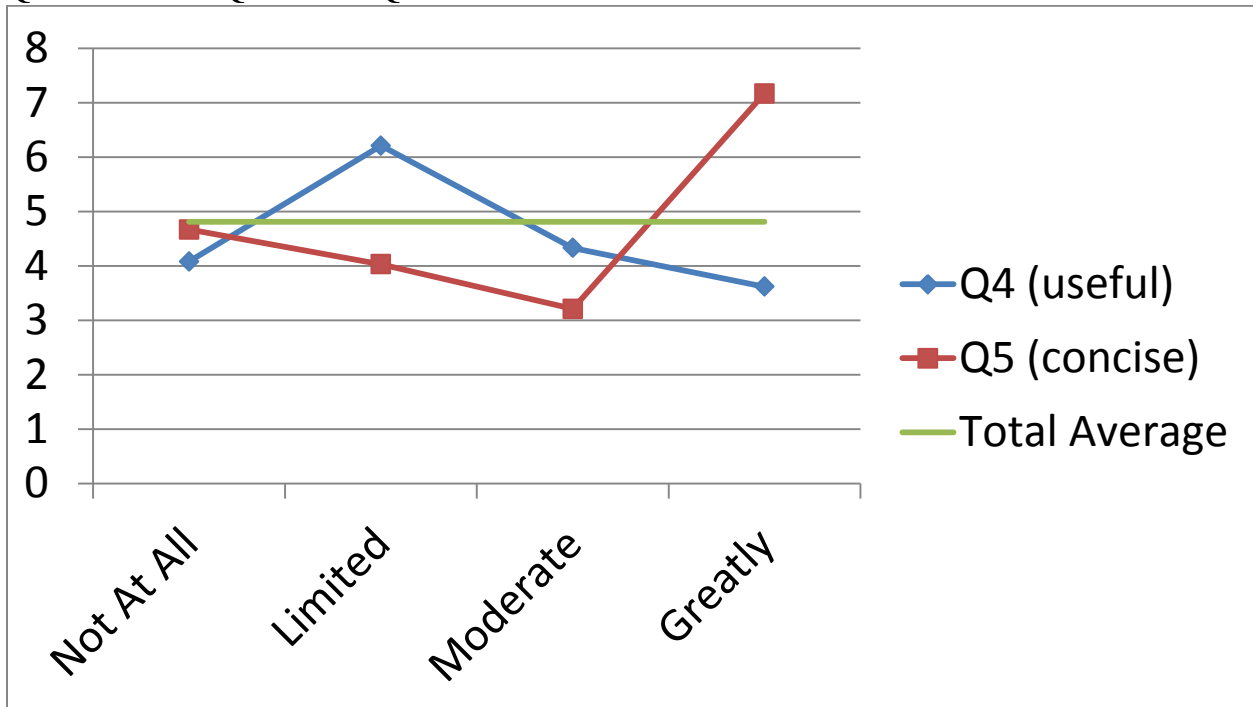
150

Question 2 and Question 4/Question 5

Figure F.29: Question 4/Question 5 and Question 2 averages

Appendix G: Interview Protocols

This appendix contains the protocols for each of the interviews we completed.

Appendix G.1 A term Resource Persons

These interviews were completed with persons while we were preparing to leave for Washington, D.C. during our A term preparation work.

Appendix G .1.1 Our Introduction

Hello, we are a group doing a project that involves patents and patent law. We will be traveling to Washington D.C. and working with the USPTO and analyzing their Pre-Issuance Submissions Program. This Program was implemented in response to a provision in the AIA passed in 2011. The provision allows any member of the public, for the first time in patent law history, to submit prior art pertaining to a pending patent application. The USPTO is hoping to speed up the examination process by allowing public submissions, because hopefully more resources will be available to patent examiners. Our goal is to make helpful suggestions about where the Program needs to improve. To do this, we will analyze how the Program affects efficiency of the examination process, and also the submission process from the public's point of view.

Appendix G.1.2 Questions

1. What is your relation to patent law, applications, patent attorneys and/or the USPTO? *How long have you been in this position?*

2. Have you used the USPTO website as a resource to questions or concerns you had about patents, such as general help/ FAQs? *If yes, can you elaborate more on what you used it for?*

3. Have you used the Electronic Filing System (EFS) through the USPTO at all?
If yes, can you please elaborate on how you used it? Do you suggest any improvements to the EFS that should be made?

4. What are some positives/negatives of the patent application process?

5. What is the approval rate of patent applications that you have dealt with? What is the average time until approval/denial?

6. Do you think that the process used by patent examiners to research prior art is efficient?

7. How much do you know about the provisions in the American Invents Act or the Pre-issuance Submissions Program that was started by the USPTO?

8. Have you ever submitted prior art pertaining to a pending patent, either by yourself or advising someone who has? *If yes, how complicated did you find the process to be? If no, would you ever consider submitting prior art?*

9. In your opinion, do you think that allowing public submissions of prior art will shorten the time it takes to get a patent approved?

10. Have you advised someone with an approved patent who has been sued due to the existence of similar prior art (post-submission issues)?

11. In your opinion, do you think prior art submissions would reduce the extent of lawsuits involving validity of approved patents?

Appendix G.2: Interviews in DC

These interviews were completed while we were at USPTO.

Appendix G.2.1 Introduction

Hello, this is [Sarah, Josh, and Brianna]. We are a group of students from Worcester Polytechnic Institute in Worcester, MA. We are working with Jack Harvey and Jim Dwyer at the USPTO on analyzing the effectiveness of the Pre-Issuance Submissions Program. We are trying to figure out the main strengths and weaknesses of the Program, and make suggestions to improve it. Along with looking at how this Program affects the examiners, we are also looking at how to increase third party participation in the Program and how the USPTO can market it better. Your responses will be recorded as we take notes, but no identifying personal information will be collected to identify you particularly in our results.

Appendix G.2.2 Interviews with USPTO Personnel

Appendix G.2.2.1 Interview with a TC Director

1. What is your involvement with the Pre-Issuance Submissions Program?

2. What were your expectations for the 3[rd] Party Program? Did your expectations differ from your experience with the Program?

3. The overall usage rate of third party submissions is around 14%. Is this lower than you expected, or do you think this number is acceptable for the Program?

4. What do you think are the reasons why people do/don't participate? Why should they?

5. How have you advertised this to the public?

6. In what ways is this Program different from Peer-to-Patent? Peer to Patent allowed people to annotate and evaluate prior art. Do you think this Program could benefit from a forum such as the one created in Peer-to-Patent? Were P2P reviewers allowed to say more in their annotations compared to the current concise description of relevance?

7. Do you think that 3[rd] parties are qualified/have enough education about patents to relevant submit prior art to the examiner?

8. How much should the USPTO share? Should third parties have as much access as examiners in relation to patent databases such as EAST(Examiner's Automated Search Tool), which has all issued US patents, or more subscriptions to journals and databases?

9. If you could summarize a few main improvements needed to this Program, what would you improve?

10. Where do you see this Program going in the future, perhaps in 5-10 years?

11. Anything else you want to mention or clarify?

Appendix G.2.2 Interview with member of Legal Department

1. What is your involvement with the Pre-Issuance Submissions Program?

2. Why was 6 months chosen as timeframe? Do you think this could have been longer or shorter?

3. Why was 10 references chosen as the maximum?

4. Why are three references free?

5. As of now, when third parties write a concise description of relevance in the submission, they cannot include claims against the patentability of a patent application. Why are they not allowed to do this?

6. Should there be a page limit on concise description?

7. If you could summarize a few main improvements needed to this Program, what would you improve?

8. Where do you see this Program going in the future, perhaps in 5-10 years?

9. Anything else you want to mention or clarify?

Appendix G.2.3 Interview with a Manager

1. What is the current procedure on how submissions are processed? Do you have any suggestions on how to make that easier and more efficient?

2. From the second anniversary forum presentation that Kim gave us, it stated some common reasons for improper submissions. Do you have any general ideas on how to lessen these problems, and therefore the number of improper submissions?

3. Are there are some things in EFS that are more easily recognizable as wrong, such as missing documents?

4. One thing we were considering was a sorting Program within EFS that could be implemented for obvious problems that don't need a person to look it over, such as

missing documents, with automated email responses to the applicant stating what was wrong. Do you think an automated Program like this this is feasible? Would this free up some time for supervisors?

5. Do you think some reasons for improper submissions are easier to reduce?

6. How do you approach looking at the concise description of relevance? How do you determine if it is compliant? Do you ever reject it if it is too long, and if so, how do you determine that?

7. What resources do you have for third parties making submissions?

8. We've noticed several things on the website, such as the fact that the link for the Quick Start Guide was not in FAQ, and Quick Start Guide did not go as in-depth as the FAQ with description of relevance and does not provide examples or a section on "common reasons for non-compliance". Do you think addition of these things could improve resources or just confuse submitters? If not, what can?

9. Are there more mistakes with the format of the submission, or the content contained within the submission?

10. Do you think that 3^{rd} parties are qualified/have enough education about patents to submit relevant prior art?

11. Is it fair to charge a second time?

Appendix G.2.4 Interview with a Manager

1. What is your involvement with the Pre-Issuance Submissions Program?

2. What were your expectations for the 3^{rd} Party Program? Did your expectations differ from your experience with the Program?

3. What specific steps have changed in the patent examination process once this Program was implemented?

4. What do you think are the reasons why people do/don't participate? Why should they?

5. How have you advertised this to the public?

6. How can involvement be increased?

7. Do you think that 3^{rd} parties are qualified/have enough education about patents to relevant submit prior art to the examiner?

8. How much should the USPTO share? Should third parties have as much access as examiners in relation to patent databases such as EAST(Examiner's Automated Search Tool), which has all issued US patents, or more subscriptions to journals and databases?

9. If you could summarize a few main improvements needed to this Program, what would you improve?

10. Where do you see this Program going in the future, perhaps in 5-10 years?

11. What is your opinion on statement concerning patentability being acceptable or unacceptable in applications?

12. Anything else you want to mention or clarify?

Appendix G.3 Interviews with third parties knowledgeable about third party submissions

Appendix G.3.1 Knowledgeable Industrial Professional #1

1. What is your relation to the Pre-Issuance Submission Program?

2. What do you think are the reasons why people do/don't participate? Why should they?

3. What do you think is the right approach to increase participation? What are some good avenues the USPTO should use for marketing and advertising?

4. What resources do you think third parties use to submit prior art?

5. Do you think that third parties are qualified enough/have enough resources to submit relevant prior art?

6. How much should the USPTO share? Should third parties have as much access as examiners in relation to patent databases such as EAST(Examiner's Automated Search Tool), which has all issued US patents, or more subscriptions to journals and databases?

7. Are you familiar with the submission process for third party prior art? If yes, what are some advantages/disadvantages of this process?

8. As of now, when third parties write a concise description of relevance in the submission, they cannot include claims against the patentability of a patent application. So you think they should be allowed to do this?

9. If you could summarize a few main improvements needed to this Program, what would you improve?

10. Where do you see this Program going in the future, perhaps in 5-10 years?

11. Are there any additional comments you want to make?

12. Can you recommend any other associates in the industry with knowledge of this Program, who would also be willing to speak with us?

Appendix G.3.2 Knowledgeable Industrial Professional #2

1. What is your relation to Ask Patents, and was the goal Ask Patents? How does the website work in terms of what people do on it?

2. What is your relation to the Pre-Issuance Submission Program?

3. What do you think are the reasons why people do/don't participate? Why should they?

4. What do you think is the right approach to increase participation? What are some good avenues the USPTO should use for marketing and advertising?

5. The overall usage rate of third party submissions by the examiner is around 14%. Is this lower than you expected, or do you think this number is acceptable for the Program?

6. Are there links on the Ask Patents website to USPTO resources on making third party submissions? How much of USPTO's resources are you allowed to post on the website?

7. Right now a problem for the USPTO is compliance with submissions guidelines. If there was a forum created where third parties could post drafts of their submissions and get comments from other people on what could possibly be non-compliant, do you think this would benefit people and/or be practical?

8. If you could summarize a few main improvements needed to this Program, or to Ask Patents, what would you improve?

9. Are there any additional comments you want to make?

10. Can you recommend any other associates in the industry with knowledge of this Program, who would also be willing to speak with us?

Appendix H: Interview Results

This appendix contains the results of each of the interviews we conducted.

Appendix H.1: A-term Resource Persons Interview Results

These are the results of our interviews completed during our A term preparations.

Appendix H.1.1 Interview with Resource Person 1

- Works as interface between patents at a university and patent attorneys (usually email, sometimes interviews)
- 23 years' experience
- Uses USPTO website to look for past university patents
  - Uses Google patents
  - PDF download → given to inventor
- Invention evaluator analysis (group in Australia) = $250 patent scope landscape → used before provisional application to get a feel what companies are in the subject area
- Have not used ESF → mainly patent attorneys → way to file online
- Positives = client side, negatives = how long microentities (accelerate by paying large $ fee)
- Hard on academic (small budget)
- System for info and life sciences
- AIA likes
  - Prior art
  - Limiting when can challenge
  - Cut down on fighting about interferences
- AIA dislikes
  - Money to get more examiners didn't happen
  - Congress gets $
- Attorneys get some claims (meaningful and worthwhile to companies → patent issued)
- Hasn't submitted prior art under new system
- If people use it, will cut down time needed to get approved
- Concern with big companies using it but small businesses won't → how helping little guy?
- Hopes there is a decrease in the number of lawsuits of competition
- Less participation from smaller companies → patent attorneys for small companies

Appendix H.1.2 Interview with Resource Person 2

1. What is your relation to patent law, applications, patent attorneys and/or the USPTO?
- Patent attorney (write, submit, on phone with USPTO everyday)

How long have you been in this position?
- 18 years

2. Have you used the USPTO website as a resource to questions or concerns you had about patents, such as general help/ FAQs? *If yes, can you elaborate more on what you used it for? Did you find the website helpful and easy to navigate?*

- Yes. Used during accelerated exam procedure w/ website example as template but website template was incorrect.
- Some rules are hidden in obscure locations like FAQ

3. Have you used the Electronic Filing System (EFS) through the USPTO at all?
If yes, can you please elaborate on how you used it?
- His firm submits everything online.

Do you suggest any improvements to the EFS that should be made?
- Longer deadline to file, re-examination too costly, takes too long (interferences especially)
- Good idea but needs fine tuning

4. What are some positives/negatives of the patent application process?
- Really likes convenience of EFS
- Biggest problem is have to have java in browser and USPTO is always versions behind so not compatible with new version
- Prioritized examine for which you pay money is unfair b/c favors large companies with a lot of money

5. What is the approval rate of patent applications that you have dealt with? What is the average time until approval/denial?
- Only had to abandon 3 applications in 15 years
- Rate of issued patents is over 99%, law firms not strict about what patents they issue but companies are strict about what they patent

6. Do you think that the process used by patent examiners to research prior art is efficient?
- Yes although it would be nice if there were shared records for foreign and domestic filings, central database of art

7. How much do you know about the provisions in the American Invents Act or the Pre-issuance Submissions Program that was started by the USPTO?
- Public not aware of EFS or rules so do not usually file

9. In your opinion, do you think that allowing public submissions of prior art will shorten the time it takes to get a patent approved?
- Not shorten time but make for stronger patents because more art cited
- Getting art to examiner ASAP is valuable

10. Have you ever submitted prior art pertaining to a pending patent, either by yourself or advising someone who has?
- Yes. Have had patent owners submit prior art to examiner, had to narrow claims but made patent more secure.

Other:
- client who makes a roller mouse for computers

- sent drawings to china to have it made, China made some and filed their own patent applications on client's device
- sued China, and Chinese patent holder said his company told him to do so
- tried to get patent eliminated in china and filed in US through pre-issuance submissions but later than 6 months so could not (pre-issuance submissions says you must file within 6 months)
- This shows how time 6 month rule is not a good, inventors are not going to look for potential competitors
- thinks window should be longer than 6 months for a patent to be filed
- Patents can be source of revenue
- Companies that go under can auction off patents, companies have thousands of patents they can use to compete with other companies
- Usually cheaper to pay a license fee than get sued especially when competing company has tons of patents to bombard another company with

Appendix H.1.3 Interview with Resource Person 3

1. What is your relation to patent law, applications, patent attorneys and/or the USPTO?
How long have you been in this position?
- A patent attorney (40 years) and former patent examiner (4-5 years)

2. Have you used the USPTO website as a resource to questions or concerns you had about patents, such as general help/ FAQs?
- Yes.
If yes, can you elaborate more on what you used it for?
- Uses PAIR system (most often) and for references, read material and references
Did you find the website helpful and easy to navigate?
- Sometimes, a lot of content on website.

3. Have you used the Electronic Filing System (EFS) through the USPTO at all?
If yes, can you please elaborate on how you used it?
- Yes.
- File everything electronically we can (patent applications, responses, IDSs, declarations, appeals)
- better to file through EFS b/c get instant response
- Does not use EFS but with assistance from patent agent or secretary [does] or another patent attorney

4. What are some positives/negatives of the patent application process?
- Good that can always use express mail for backup
- Likes pdf filing format
- Patent process takes long time, need more examiners, examiners today only giving limited time to search, patent examiners need more training (not as good quality as in the past when they were given more time)
- Patent office money gets taken to pay for incurred costs [to pay for incurred costs] and used to pay government general funds

- Lack of resources
- General public does not know importance of patent office
- Request for continued examination (1st office action and 2nd office action (final) and then request for continued examination which [can cost $800] is very expensive)
- Patent office can't keep [this] their profits money so only inventors or patent owners pay and it is like taxation w/out representation, all taxpayers should contribute to patent office, since the benefit of the patent system is for the entire country's economy
- Patent office should not charge inventors who help country
- Should NOT be forced to pay for office actions past 2nd office action
- Can we extend amount of free office actions before final rejection?
- Everyone in this country [indirectly uses] benefits from the patent system and patent office

5. What is the approval rate of patent applications that you have dealt with? What is the average time until approval/denial?
- [Have to get a patent allowed before issued]
- Filed applications to those issued is high, at least 70%
- Normal application route take 1.5-3 years but can pay to expedite

6. Do you think that the process used by patent examiners to research prior art is efficient?
- Think process is efficient but examiners not provided enough time [(appeal to examiners)]
- Finding references during 2nd office action and during [RDE] RCE that should have found during 1st office action

7. In your opinion, do you think that allowing public submissions of prior art will shorten the time it takes to get a patent approved?
- No. Will lengthen time [unless examiner only relies on public submissions which could be irrelevant.]

8. In your opinion, do you think prior art submissions would reduce the extent of lawsuits involving validity of approved patents?
- If you do not plan on going to court (want to avoid legal battles, lack of money) submitting prior art to patent office is a good idea

Other:
- Public could always submit prior art but it was not very widely known by public.
- For more EFS info, Marloschepper-Grolnic- mschepper@burns-lev.com, contact Erlich to connect you with her
- [How] Too many RCEs are filed per application? (huge money expense)
- [How long are examiners given to search?]
- [Who submits majority of prior art through EFS?]

Appendix H.2: Results of Interviews in DC

These are the results of the interviews we completed while at USPTO.

Appendix H.2.1 Introduction

Hello, this is [Sarah, Josh, and Brianna]. We are a group of students from Worcester Polytechnic Institute in Worcester, MA. We are working with Jack Harvey and Jim Dwyer at the USPTO on analyzing the effectiveness of the Pre-Issuance Submissions Program. We are trying to figure out the main strengths and weaknesses of the Program, and make suggestions to improve it. Along with looking at how this Program affects the examiners, we are also looking at how to increase third party participation in the Program and how the USPTO can market it better. Your responses will be recorded as we take notes, but no identifying personal information will be collected to identify you particularly in our results.

Appendix H.2.2 Interviews with USPTO Personnel

Appendix H.2.2.1 Interview with a TC Director

1. **What is your involvement with the Pre-Issuance Submissions Program?**
   - Asked to lead Peer to Patent (P2P), a pilot Program to determine what extent the public would interact in crowd sourcing environment to find prior art for examiners during prosecution (two pilots in 07, 08 and 10)
     - was first pilot of its kind that allowed public to look at patent applications and what the examiner considers
   - He was the only director involved in the pilot Program so he was selected to lead in implementing AIA law

2. **What were your expectations for the 3rd Party Program? Did your expectations differ from your experience with the Program?**
   - There would be more participation in pre-issuance than rule 99 (rule 99 was a precursor to AIA law that allowed third parties to submit up to 10 references, no concise description required, within up to two months of publication)
   - P2P expanded to Great Britain, Australia and Korea
   - Pre-issuance Submissions, unlike P2P, requires a concise description and expands submittal time frame
   - Unexpected that they received more NPL than any other form
     - The NPL is most important form of art submitted in Program b/c unavailable to examiners usually
   - Mechanical arts and chemical had higher participation in pre-issuance and electrical least, opposite of P2P

3. **The overall usage rate of third party submissions is around 14%. Is this lower than you expected, or do you think this number is acceptable for the Program?**
   - Lower than expected by a bit, but there are only 250 data points.
   - Expected around 20%. A statistician would tell you a percentage of inaccuracy.
   - Hope that the number would increase slightly because there will be more efforts of the USPTO to expand awareness and increase interest in the Program.

- Education and interest of public are lacking- people that submit have full time jobs, not a lot of interest because there's not much financial gain.
- If art becomes more relevant percentage will increase

4. **What do you think are the reasons why people do/don't participate? Why should they?**
   - People participate because there are corporations that provide incentives for employees to participate
   - But people also participate b/c genuinely believe their art can impact examiner's decision
     - Corporations that are highly competitive may have more interest in participating
   - Corporations want to ensure that patents from competitors don't issue
   - Another strategy of corps is to not tell competitors what inventions they are interested in so don't submit art, allow other company to spend money getting patent issued, and then go after rival in litigation
     - System is set up for anonymity
     - People also don't participate because they are ignorant
     - Other companies don't submit cause they don't get things patented, they keep secrets

5. **How have you advertised this to the public?**
   - Federal Register, a formal communication system to communicate to public about proposed changes to policies and new Programs
   - There is a section on AIA on USPTO.gov
   a. In what ways could you improve your marketing and outreach, or increase involvement?
   b.
     - Takes a lot of money and most is spent examining, pretty much only budget for ads is through website, but if money wasn't an issue:
       - Radio, television
       - Dedicated user-friendly webpage including Programs and services at USPTO highlighted
         - EFS interface was designed for patent practitioners who were registered with a password
         - For pre-issuance used same interface for general public
     - No time or funds to make EFS better suited for novices→big cause of improper submissions
     - More feasible forms of advertisement:
       - Leveraging the public to do bidding for us can be beneficial
       - Reach out to engineering and law schools → credit for students participating
         - Difficult to start up because there is already a lot of work to do at USPTO
     - Professor at New York Law School convinced a corporate third party and the then under secretary at USPTO that peer review was good for patent system
       - Got funding at companies then consulted USPTO about it

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  Is there a department in charge of outreach to the public about this system?

      Public affairs
      USPTO Facebook page and Twitter feeds

6. **In what ways is this Program different from Peer-to-Patent? Peer to Patent allowed people to annotate and evaluate prior art. Do you think this Program could benefit from a forum such as the one created in Peer-to-Patent? Were P2P reviewers allowed to say more in their annotations compared to the current concise description of relevance?**

- P2P was a stand-alone website that encouraged crowd-sourcing in which application was discussed in a forum and prior art was found
  - Might be beneficial to bring this back
- All applications in peer-review needed consent from the applicants to participate.
- All applications participating would move to the front of the examining line.
- In P2P application was 4 months after publication as opposed to six months or FAOM
- More leeway in what could be said in P2P annotations
  - Due to statute not possible to have certain statements in pre-issuance submissions
- Don't use a public entity for current system, internal USPTO system.
- Don't need permission from the applicants now.
- No fees in the P2P for up to 10 references as opposed to 3. don't know if waiving fees would affect a lot- doesn't know if fee is stopping people from submitting.
  - USPTO would like to pilot bringing back no fee system
  - Fees do not seem to be stopping people from submitting
- Goal was to open up USPTO and make it more transparent→ Program did serve that purpose but could still be improved

7. **Do you think that 3rd parties are qualified/have enough education about patents to relevant submit prior art to the examiner?**

- They appear to know what is going on
- Expected examiners to find best art and 3P submissions would fill gap on difficult applications
- Submissions are thoughtful and relevant to the technology and inventive concept, no frivolous filings
- Examiners are not neglecting 3P art because of ego
- Are examiners used to 3P or does it offset their rhythm?
  - They are fine. The examiners get IDSs and 3Ps are treated like IDS (but 3Ps have a description that IDSs do not

8. **How much should the USPTO share? Should third parties have as much access as examiners in relation to patent databases such as EAST(Examiner's Automated Search Tool), which has all issued US patents, or more subscriptions to journals and databases?**

- They have access, but they have to pay for it, there is a fee service. But online tools certainly need to be upgraded.

- Patent office has nothing to lose by being more transparent and giving public access to all data
  - Reason people think USPTO has not done this is because they have not advertised this intention upfront, it is publically available but not packaged nicely

9. **If you could summarize a few main improvements needed to this Program, what would you improve?**
   - Easier to use interface (1 click)
     - 3P could easily identify that what they have is applicable b/c of timing
     - 1 page not multiple
   - Collaborative page-voting to choose best piece
   - Fee is to ensure people do not give frivolous submissions, not making USPTO money
   - Have not heard from public that fees are problem
   - Increase public awareness
     - Much of public is ignorant about patent process
   - No fees if this would help

10. **Where do you see this Program going in the future, perhaps in 5-10 years?**
    - It's a law, so it's going to continue.
    - With the proper funding and support by the undersecretary office, could easily have 10 times the submission within 3 years due to:
      - Website development
      - Tool development
      - advertising
    - Funding is difficult and money is tight-not sure of any company that would help out because there is no clear incentive for them.
      - Funding comes from CIO or patents budget
      - Non-profits might help
    - Maybe an increase in submission fees would help.

11. **Anything else you want to mention or clarify?**
    - Took EFS and modified for unregistered users, did not make new interface at start of Program→ yielded success but White House wants it to expand and need funding
    - Interaction between an examiner and public is very limited. Communication is *ex parte* or communication between the examiner and applicant only.
      - Possible that someone representing examiner can talk to expert in field and report back-not sure yet
      - Must preserve examiner's mindset
    - Members of public can pose questions to USPTO-at least 4 help desks
      - These do not include a service to talk about particular applications

1. **What is your involvement with the Pre-Issuance Submissions Program?**
   - Her involvement was largely drafting the notice of proposed rule-making it, evaluating the comments from the public, taking comments and writing the final rules. Constantly getting comments back and having to revise. The final rules are fixed and cannot change. Had to redo rule 99 section of the MPEP because the new Program is in place. There is also a manual that exists called the Manual of Patent Examining Procedure, and once the manual for this year comes out, this will improve the Program. The manual includes more information about concise description examples and this will help the public. The manual is also publicly available. However it is very far along in the process to be released-contact Bob Clark to try to receive the manual and/or see when it will come out.

2. **Why was 6 months chosen as timeframe? Do you think this could have been longer or shorter?**
   - When Congress wrote 122(e), they set the time period and the USPTO had to follow- there is no flexibility with changing that statute. Not sure exactly why a 6 month timeframe was chosen and what their thought process was, but she thinks it's a balance of not slowing down prosecution, yet giving enough time for them to submit. In terms of what was drafted by congress then implemented by Nicole Haines they had a decent amount of flexibility but there was some congressional limitations to USPTO rule making. Not impossible that there could be a future revision if it's not a part of the statute (congress statute is not flexible) - fees is left to the discretion of the director. Would still involve a process (w/ comments from public) unless it is a correction to a mistake. To change fees can still be difficult, go to fee expert-Jim Engle.

3. **Why was 10 references chosen as the maximum?**
   - Determined by the electronic interface, IT Implementation, there is a limit on the number of uploads that the system could handle. Wanted to make sure that the electronic system could handle all the documents. No limit for paper submissions- the problem is in submission interface but not with scanning paper. Look at EFS legal framework document online-available on external website.

4. **Why are three references free?**
   - Decision from Director Kappos, maybe some discussion in rules. Balance of encouraging participation, yet keep the prior art focused and make the submitter submit only the best prior art so that the examiner is not bogged down.

5. **As of now, when third parties write a concise description of relevance in the submission, they cannot include claims against the patentability of a patent application. Why are they not allowed to do this?**
   - There is a section of statute that does not allow office to permit protest after publication. Prohibits stuff that could potentially amount to a protest after patent is published. Trying to make a balance between 3rd party submission and protests-

35USC122C, congress chose not to change this. Statutory framework cannot be changed- set in stone by Congressional statute.

6. **Should there be a page limit on concise description?**
   - Hard to pick length because you don't know how many claims the third party is going to address in the patent application. She thinks that third parties would be motivated to keep it short, concise, and focused to help the examiner. Statute requires it to be concise, not much of a problem. They have ability to bounce descriptions that are too long, screeners do this.

7. **If you could summarize a few main improvements needed to this Program, what would you improve?**
   - Need more education on the Program for third parties. If it's on specific requirements then office would be better suited to do that.

8. **Where do you see this Program going in the future, perhaps in 5-10 years?**
   - Did not have time to answer

9. **Anything else you want to mention or clarify?**
   - Ask communications for legal info on putting links to pto site on stack exchange. Made presentations for roadshow to promote Program, developed interface, worked on people to make forms, update faqs. Did all the presentations at roadshows promoting the Programs-went to a public library in Ft. Lauderdale, did one in NYC public library that had a heavy attorney focus-involved a lot of AIA stuff though. Audience at roadshow: random public, at libraries, inventors and attorneys but open to all. Past roadshows were about multiple Programs but just pre-issuance does not involve enough info. It was largely her group implementing the FAQ to make sure it complies with the rules.

Appendix H.2.3 Interview with a Manager

1. **What is the current procedure on how submissions are processed? Do you have any suggestions on how to make that easier and more efficient?**
   - There's a daily report that is generated from EFS, and it lists all the submissions from the day that are current when the report is run. Report gets forwarded to POC's through email, and they sort it based on TC to determine which ones are theirs. It would be beneficial to have the system send individual notifications based on TC, so they do not have to check every day if there are new submissions. Reviewers can also look up all new submissions in Parking Lot, but can't see which TC it belongs to.

2. **From the second anniversary forum presentation that Kim gave us, it stated some common reasons for improper submissions,** which are:
   -Submitted at improper time
   -Documents did not qualify as publications
   -Did not provide evidence of publication or used form as a mechanism to place -
   information not pertinent to establishing the document as a publication

-Concise description included arguments against patentability, conclusions regarding whether one or more claims were patentable, or only provided bare statements
-Signature- no signature or wrong
-Fee was not paid
-Submitter was not a third party

Do you have any general ideas on how to lessen these problems, and therefore the number of improper submissions?

- We tried to update the user's guide and worked with OPLA to list the do's and don'ts on the webpage to be posted. Lots of warning boxes in EFS, tried to include as much as possible when filing in the system. For non-3P filers (people file papers electronically), their only options are petitions and 3P for unregistered users. They might not know nomenclature and mistakenly file in 3P submissions. These are the improper "filed by applicant". Tried to make system as fool-proof as possible and fixed the system a few times.
Future: provide educational materials where people will see them and have them read them before submitting.

3. **Are there are some things in EFS that are more easily recognizable as wrong, such as missing documents?**
   - From reviewer it's not so obvious. I think when a reviewer pick it up they have a set routine: look at IDS form, make sure documents match up and don't look odd

4. **One thing we were considering was a sorting Program within EFS that could be implemented for obvious problems that don't need a person to look it over, such as missing documents, with automated email responses to the applicant stating what was wrong. Do you think an automated Program like this this is feasible? Would this free up some time for supervisors?**
   - The date and whether it is timely when first employed and you tried to submit something outside window system would not let you file-but we were told that they have to let people file anyways so doesn't disallow, just warns- doesn't understand the reasoning behind it. There are pop-ups that appear that it may not be timely. Include indication of time window-it might be helpful, doesn't think that the applicants would want that though. With 3P if you file on last day of eligibility requirement windows it is not timely, must be filed before last day-bends people out of shape. How do submitters find out about applications? Not sure. The applications are published in the official journal or gazette but usually people are good at following what their competitors or companies of interest are doing in terms of patents and then can use this info to check PAIR
     - Attorneys say they have people who scour internet and keep close watch on this stuff
     - PALM lists app information that office uses and PAIR is similar
       - There is public PAIR and private PAIR
       - In public PAIR it might be helpful to put time window but applicants might not like that

5. **Do you think some reasons for improper submissions are easier to reduce?**
   - For individuals who submit more than once, it is a self-correcting process once user makes mistake they don't make it again. Hardest one to correct is when the rules are fuzzy, such as with the concise description, and then you have to make judgment calls. Easiest ones are formality issues. Submissions pushing boundary on compliance, and submitters are putting in disclaimers/limitations. A major problem is those submissions where rules are vague on what submitter is trying to do-based on judgment-take to the higher ups
     - o Try to give submitters a minimum of what we need fixed by them Whenever they get borderline submissions they keep in mind whether they will have time to file another-but try to ere on side of submitter in judgment call instead of just rejecting a submission. Evidence of publication: tell them this is what we accept for evidence but still have some that come in with "creative" ways of showing evidence
       - o Examples on a microwebsite can help in this case and in many other cases
       - o Include caviat like "this is not the only way of doing this but…"

6. **How do you approach looking at the concise description of relevance? How do you determine if it is compliant? Do you ever reject it if it is too long, and if so, how do you determine that?**
   - Deals with the petitions concerning the concise description.
     Been told that they cannot be too specific to submitters about the concise description. Told them what they accept for evidence of publication. Examples would probably improve submissions.

7. **What resources do you have for third parties making submissions?**
   - None that he knows of other than FAQ and quick-start guide. Constantly did road shows with powerpoint presentations. Good advertisement route? Divided opinion: gets public engaged and taps resources but we don't want interference with prosecution, ads on government websites, at point now that people interested are hooked, how to get more people? Put splashes on google, trade journals (law journals), attorneys can advertise.

8. **We've noticed several things on the website, such as the fact that the link for the Quick Start Guide was not in FAQ, and Quick Start Guide did not go as in-depth as the FAQ with description of relevance and does not provide examples or a section on "common reasons for non-compliance". Do you think addition of these things could improve resources or just confuse submitters? If not, what can?**
   - All for a dedicated site for third party submissions that's easier to digest. Website used to be a lot simpler layout. Someone should be working on the micro-site→ Talk to Nicole. USPTO website used to be simpler but changed it

9. **Are there more mistakes with the format of the submission, or the content contained within the submission?**
   - More problems with content, not paying for 10 submissions

10. **Do you think that 3rd parties are qualified/have enough education about patents to submit relevant prior art?**
   - In general, most of the submitters are well versed in the technology and what they feel the technology entails, some are less versed in patents and patent process so they file things more out of passion than intellectual application

11. **Is it fair to charge a second time?**
   - Different than everything else at the office. The rules specifically state that there are no corrections, if it is wrong you have to submit it as a totally separate submission. Not always fair. Some stuff can be corrected in office by examiner when he looks at it
     - 3P may or may not like this-example of erring on side of submitter

Extra: Good in the sense that we can get the public engaged. Maybe include links on government websites. To the point that the people that are interested in it know about it. Advertising on Stack Exchange website or Google.

Appendix H.2.4 Interview with a Manager

1. **What is your involvement with the Pre-Issuance Submissions Program?**
   - He got pulled in to the project to:
     - look at Stack Exchange website-easy formats to submit on website
     - assist in what the rules are
     - how to make the website work to submit prior art
     - Educate on fees, AIA rules and regulations-put informative material on Stack Exchange but can't show USPTO involvement on site
     - Told Stack Exchange how they could get info from USPTO
   - Issue: how can they get cases where the examiner will pick it up in a few months

2. **What were your expectations for the 3rd Party Program? Did your expectations differ from your experience with the Program?**
   - A lot of people would come in with 3P art but now seeing that examiners do not use it that much
     - Disconnect b/w what people think USPTO uses and what they actually use
   - Want to get art through Program that examiners aren't privy to
   - Anything that might help examiner find something or tweak examiner's view is a plus

3. **What specific steps have changed in the patent examination process once this Program was implemented?**
   - None other than the fact that examiners will have an IDS from a 3P that they can use in an Office Action

4. **What do you think are the reasons why people do/don't participate? Why should they?**

- Not participating b/c not sure how they submit through forms and EFS- Hard to submit with the many forms they have to fill out
- People submit b/c it is their passion to make sure PTO sees art
- People should submit because it is always good to have art on record→stronger patents

5. **How have you advertised this to the public?**
   - Mostly through Stack Exchange
     - Ask patents-especially PGPubs
     - Not aware of anything done by USPTO
   - PTO talks to Commissioner and Commissioner staff before info goes out
   - Could do internal (be aware) and external (make it easy)
   - PTO made it publically known that they will not charge a person for knowing art through fee system
     a. In what ways could you improve your marketing and outreach?
   - Make the process easier.
   - Tell public and internal employees to keep eye on Program
   - Stack Exchange is already a big advertisement
     b. Is there a department in charge of outreach to the public about this system?
   - Will look into it
   - Stack Exchange

6. **How can involvement be increased?**
   - Education to what AIA rules are and rules for submitting 3P
   - Advertising
   - Can't tell them to specifically go to Stack Exchange
   - Telling public what is in place to make 3P submissions easy
     - Can take place at meetings with companies like Partnering in Patents

7. **Do you think that 3rd parties are qualified/have enough education about patents to relevant submit prior art to the examiner?**
   - Some do/some don't, have a mixed bag of people
     - To increase resources to people about patent law we can put stuff on Stack Exchange, which we already do
       - There is flowchart of process on USPTO to serve this purpose
     - Confusion about what should be in concise descriptions
       - Gave stack examples of things that are relevant and things not accepted, most of public sees this but don't grasp concept fully→more info would be helpful
       - Understanding of patent process and examination process → understanding what looked at in claim
   - Companies should have more resources about how to submit relevant prior art.
   - Website has a lot of resources, but getting to it is the main issue.

8. **How much should the USPTO share? Should third parties have as much access as examiners in relation to patent databases such as EAST(Examiner's Automated Search Tool), which has all issued US patents, or more subscriptions to journals and databases?**
   - Examiners are trained to find stuff in USPTO tool
     - The goal of Program is to get people to find stuff examiners would not find with their tools

9. **If you could summarize a few main improvements needed to this Program, what would you improve?**
   - Advertise it more in highlighting what is free
   - Make the submissions process easier
     - 70% is with the content of the submission, not presentation.
   - System within eDAN that notifies examiner of 3P is fine

10. **Where do you see this Program going in the future, perhaps in 5-10 years?**
    - For near future:
      - Increase in submissions
      - other companies will try to stop patents from being issued
      - Change of rules might take place to make submissions process easier

11. **What is your opinion on statement concerning patentability being acceptable or unacceptable in applications?**
    - Told them to resubmit if the concise description is wrong. Maybe change the fee structure later on.
    - Mere existence of comments against patentability on record, no matter what happens to application bogs down USPTO system
    - Statements being out there also make patents vulnerable to protest in future
      - Public will get upset if third party statements differ from examiners decisions
      - Others will question the opinion of the examiner, examiners should be the main authority

12. **Anything else you want to mention or clarify?**
    - People in charge of the website take care of much of the advertising

Appendix H.3 Results of Interviews with third parties knowledgeable about third party submissions

Appendix H.3.1 Knowledgeable Industrial Professional #1
1. **What is your relation to the Pre-Issuance Submission Program?**
   - Role at corporation, responsibility is patent policy related work- organized P2P Pilot Program
   - Had ideas that ran in parallel with another person
     - This other person had ideas about funding and resources
     - I had all the contacts,

- o worked quite a bit to get the project going
  - o Introduced AIA into legislation
- My employee who is with me is now overseeing this corporation's activities with respect to submitting prior art

2. **What do you think are the reasons why people do/don't participate? Why should they?**
   - A lot of people don't participate b/c:
     - o Lack of resources
     - o fear USPTO will issue a patent anyway and, therefore, spend their prior art in a useless case
     - o Application is not seen as an immediate threat
   - Part of our civic duty to contribute to patent
     - o incentive is to increase the quality of patents
   - Parties should submit prior art so they can head off a patent and save themselves work some of the work of protesting it
     - o In 3P no assumption of validity with applications so chance of successful protest increased

3. **What do you think is the right approach to increase participation? What are some good avenues the USPTO should use for marketing and advertising?**
   - Huge spikes in participation during P2P when Program was receiving publicity
   - To increase participation of third parties USPTO
     - o can get publicity (via front page of newspaper or news story)
     - o publish more data about Program for public viewing
     - o Reach out to educational community
       - ▪ A California school offered classes involving prior art search → very productive
       - ▪ Previously reached out to engineering school and law school
     - o Giving more freedom to 3P to enter publication information when electronically submitting art → more proper submissions (esp. for NPL)
       - ▪ Beneficial b/c/ USPTO has historically been bad at finding NPL

4. **What resources do you think third parties use to submit prior art?**
   - Technical experts knowledgeable in TC area can find papers
     - o people who know technological field are more useful at finding art than patent lawyers
   - law experts needed to interpret claims correctly
   - Google patents
   - Companies who don't participate have at best told employees about the Program and just walked away
     - o Need to appoint somebody to encourage participation and develop a strategy
     - o My employee here and 1-2 others coordinate 3P at this corporation

5. **Do you think that third parties are qualified enough/have enough resources to submit relevant prior art?**
   - It doesn't really matter-matters in the sense that useless submissions waste time of office-doesn't matter from perspective of ultimate outcome of patents
   - USPTO should make process easier: provision requiring party of interest have presented complications
   - As long as a reasonable percentage of submissions yields useful results examiners will not be hindered
     - 20% of submission in P2P were cited and used in final rejections → thought this was reasonable
   - 3P is meant to supplement examiners, not replace them
     - Public will not be able to find good art at rate of examiners

6. **How much should the USPTO share? Should third parties have as much access as examiners in relation to patent databases such as EAST(Examiner's Automated Search Tool), which has all issued US patents, or more subscriptions to journals and databases?**
   - 3P should have access to all databases examiners use such as EAST
     - 3P access to search engine that uses good analytics → better search of the database
   - doesn't mean access to confidential information

7. **Are you familiar with the submission process for third party prior art? If yes, what are some advantages/disadvantages of this process?**
   - Electronic submissions are easier cost wise → instant acknowledgment
     - Paper needed for NPL because too much info → little bit longer for acknowledgement of rejected/accepted
   - Dislike privity requirement → coordinate with teams to avoid trigging fees
   - Suggest easier navigation of submission interface
   - Dislike fee Structure
     - Up to three submission w/out fee but little mistakes that require resubmission and, therefore, a fee are a nuisance
   - Good online Quick Start Guides and FAQs

8. **As of now, when third parties write a concise description of relevance in the submission, they cannot include claims against the patentability of a patent application. So you think they should be allowed to do this?**
   - Protests rules do not allow submitters to make claims but this does not make much of a difference
     - It is fine to say how they think art is relevant and leave it to the examiner
     - Examiner has authority and what 3P says is largely irrelevant as long as examiner has to sign the rejection
   - If a submitter makes offending statement examiner should just ignore it, not say the submission is improper

9. **If you could summarize a few main improvements needed to this Program, what would you improve?**
   - Allow 3Ps to collaborate like in P2P
     - Allows 3Ps to help each other in finding prior art
     - May increase quality of submission and could be why submissions from P2P were of better quality
   - Refer to previous answers:
     - Increase publicity
     - Involvement with Universities
     - Fee system for resubmissions
     - More freedom in entering publication info/ other info electronically
     - Easier to navigate electronic submission interface
     - Examiner databases available to 3P

10. **Where do you see this Program going in the future, perhaps in 5-10 years?**
    - Depends on worldwide PTO
    - Process not going to fix everything but it can help the system to resolve prior problems
    - Function of how good a job PTO and other offices promote process
    - Are there any additional comments you want to make?

11. **Are there any additional comments you want to make?**
    - What exactly is in description of relevance?
    - Need to have examples of descriptions of relevance on website
      - Currently no pattern to writing description of relevance
      - Confusion over whether to use statement of relevance or claim mapping
      - Some tech experts at this corporation do not know how to do claim mapping
    - PTO hasn't been transparent about 3P submissions-can't find patent applications with other submissions.
    - Asked PTO to make applications that draw fire public
      - don't know who is making submissions

Appendix H.3.2 Knowledgeable Industrial Professional #2

1. **What is your relation to Ask Patents, and was the goal Ask Patents? How does the website work in terms of what people do on it?**
   - Professor at Stanford, one of the founders of Stack Overflow (parent company of Stack Exchange). Dave Kappos approached Joel Kolspel set up site like Stack Overflow → called to do one for patents. Last year I was on sabbatical to help manage the roll out .
     Vision: where's a place where I have an unusual combo of resources and can make a difference that's positive
     Resources
     - Attention/interest of PTO

- o Recent changes under AIA gave process to influence/interject into patent prosecution phase
- o Stack Overflow → largest Programming Q/A sites → large chunk have interest in patents
  - ▪ Desire to post a patent application currently under consideration so internet community can help them find prior art
  - ▪ Individual that post prior art request for an application → request more prior art from community (Q/A format) → gamified points = more privileges

What does site allow participants to do?
- o Post an application being considered by USPTO or a patent and request prior art for it-not common with patents
- o Individual wants to make sure patent applications do not get issued and request prior art in form of a Q and A forum
- o Points when a good Q or A given- points to privileges on site (can edit other users questions and stuff)
  - ▪ Go to site to answer requests for prior art

Goal: influence patent process in positive way

- o Help in finding art obscure to examiners, esp. NPL
- o Help to justify issuing a patent if examiner or ask patents can't find prior art

Idea of P2P is corporations would agree to post apps onto site and people and people would submit art

2. **What is your relation to the Pre-Issuance Submission Program?**
   - Came online after the law created, I didn't have much to say about how the law got implemented by PTO. Individuals just customers that use the process. Ask patents simply uses the AIA process
   - Meets Jack once in a while and they discuss what each of them are doing
     - o Jack suggests how USPTO can help
     - o No official way to give feedback

3. **What do you think are the reasons why people do/don't participate? Why should they?**
   - Don't us it:
     - o Don't participate because it is difficult, many steps in submissions process
     - o Unclear to sophisticated users whether they want to get stuff in file system
     - o Companies don't want bad patents to be issued and then be sued later BUT lawyers that would be hired are litigators
     - o Litigators have perception save it for good fight later
     - o Fear that patent issues anyway with modified claims, but now in file history is record of prior art being considered
   - Do use it:
     - o Find way to find other people's submissions to be able to read them

- o If independent developer/not a lawyer but in software company/mad at big company → moral position to channel energy
- o Do not want bad patents issued

4. **What do you think is the right approach to increase participation? What are some good avenues the USPTO should use for marketing and advertising?**
   - Process could be streamlined, selecting whether if something is allowed into file history (don't want arguments being put into history) → let examiner form opinion about it (examiners not going to be easily swayed)
     Sample letters of how to write it well/one that wouldn't be allowed
   - Should relax cause people can still get this art in without saying certain keywords

5. **The overall usage rate of third party submissions by the examiner is around 14%. Is this lower than you expected, or do you think this number is acceptable for the Program?**
   - It's a funnel. It would be nice if there were more
     It would be cool if examiners try to use where possible to make submitters feel good about using time to do this in future-social purpose
     Signing art at uspto and sending it back with a thanks can encourage participation

6. **Are there links on the Ask Patents website to USPTO resources on making third party submissions? How much of USPTO's resources are you allowed to post on the website?**
   - Link as much as they want, I would be happy to make a page of links. People usually provide links to process questions in answer. Tried not to create army of people who submit, want people who specialize and help them submit the art. Request for prior art and questions about patent process are two types of questions

7. **Right now a problem for the USPTO is compliance with submissions guidelines. If there was a forum created where third parties could post drafts of their submissions and get comments from other people on what could possibly be non-compliant, do you think this would benefit people and/or be practical?**
   - o Major undertaking for PTO → find someone outside to do it, want a third party to do it. Set of lawyers to know what does/doesn't get through → skittish about posting it publically. Kit Walsh at Harvard-running a team with that picked patent apps they thought shouldn't get issued and used Ask Patents
     - ▪ Has a template to submit stuff to USPTO

8. **If you could summarize a few main improvements needed to this Program, or to Ask Patents, what would you improve?**
   - Increase transparency what applications got submissions
     - o More useful information from community when the community knows where it is being used- reassurance for public
     Rules about what's included in file history (not clear how much freedom)

- One concrete suggestion I had was for USPTO to publish a list of the approximately 1000 applications for which a Pre-issuance Submission has been made since Sept 2012. This is already public (through Public PAIR) but there is not way to search for it. I said if they published the list in Excel then we could pull the Pre-issuance submissions PDFs using our crawlers and provide them to you or anyone else who wants to analyze them. It's all public anyway. My theory is that if the community knows how people are currently using the Program we all will be in a better position to understand what is working well and what can be improved.

9. **Are there any additional comments you want to make?**
- None

Appendix I: Focus Groups

This appendix contains the protocol for the focus group we conducted.

I.1 Initial Focus Group Email

Hello, we are a group of interning students from Worcester Polytechnic Institute in Worcester, MA. We are working with Jack Harvey and Jim Dwyer on analyzing the effectiveness of the Pre-Issuance Submissions Program. Our hope is to identify strengths and weaknesses of the Program and to provide necessary recommendations to the USPTO.

We would like to conduct a focus group of examiners who have reached an office action on applications that have contained prior art submissions by third parties. We hope to conduct this focus group during the first week of December. If you are interested in participating in our focus group, please respond to Sarah.Kapelner@USPTO.gov, Joshua.Palmer1@USPTO.GOV, or Brianna.Sheldon@USPTO.GOV.

Sincerely,
      Sarah Kapelner, Joshua Palmer, and Brianna Sheldon

I.2 Second Focus Group Email

You are receiving this email because you completed an Office action in SN: ******** which contained a Third Party Submission filed under 35 USC 122(e), and have also volunteered to participate in our focus group.

The focus group will be conducted on ……….. from….in Room………Please bring relevant materials regarding the 3rd party submission and patent application to the focus group.

Sincerely,
      Sarah Kapelner, Joshua Palmer, and Brianna Sheldon

I.3 Day of Focus Group

Our Introduction

Hello, we are a group of interning students from Worcester Polytechnic Institute in Worcester, MA. We are working with Jack Harvey and Jim Dwyer on analyzing the effectiveness of the Pre-Issuance Submissions Program. We are trying to figure out the main strengths and weaknesses of the Program, and make suggestions to improve it. You have been asked to participate in this focus group because you have reviewed a patent application with a third party submission. We appreciate you taking the time to participate in our focus group. Since this Program directly affects patent examiners, your input will be very valuable in our analysis. Your responses will be recorded as our group takes notes, but no identifying personal information will be collected to identify you particularly in our results. If at any point you feel uncomfortable, you do not have to answer a question. Are there any questions before we get started?

Questions

1. Did you have any expectations for the 3rd party submission? How did your actual experiences differ from your expectations?

Format of submission

2. Was the 3rd party submission visible and easily indicated within eDAN? Any suggestions on how to improve notification of the submission?

3. Do you feel that enough training/resources have been given to you to properly address and process the third party submission? Any comments?

Usefulness

4. What extent were the 3rd party submissions useful during the examination of the application? If not useful, why not?

5. How useful were the concise descriptions of relevance? Why/why not?

6. How relevant was the prior art submitted with respect to the patent application?

7. Did the 3rd party submissions allow you to find prior art that was not easily found with the USPTO databases/resources? Why or why not?

Time Taken

8. Did the inclusion of a third party submission increase/decrease the amount of time spent searching for prior art. Can you explain why?

Conclusion

9. Do you have any general suggestions on how 3rd party submissions could be improved?

10. Do you have any other comments/questions/concerns/thoughts about the Program?

Appendix J: Focus Group Results

This appendix contains the results of the focus group we conducted.

Questions

1. **Did you have any expectations for the 3ʳᵈ party submission? How did your actual experiences differ from your expectations?**
   - Good starting point for what type of art exists and keyword search
   - References provided not directly to claims but in general art area
   - Statements of relevance not good for claims but detailed
   - Studied art for parent → not helpful in child case
   - Submission cited art that examiner already cited
   - Included pin citations
   - Lengthy submissions
   - Overall good experience with Program

Format of submission

2. **Was the 3ʳᵈ party submission visible and easily indicated within eDAN? Any suggestions on how to improve notification of the submission?**
   - Yes. There is a notification in eDAN and a letter sent to applicant.
     - Letter included in case
     - Must reach applicant→can stall examination process
   - Separate third party submissions tab would be nice
     - Currently included in IDS tab
   - When PALM changed doc code to IDS3P →improved notification
   - Examiner does not necessarily know that submission is there

3. **Do you feel that enough training/resources have been given to you to properly address and process the third party submission? Any comments?**
   - So far so good
   - No official training session
     - Mixed into basic USPTO training
     - Learn about Program through experience or asking others
   - Webpage or SharePoint on how to process submissions would be helpful

Usefulness

4. **What extent were the 3ʳᵈ party submissions useful during the examination of the application? If not useful, why not?**
   - Redundant art
   - Some references resurfaced during examiner search
   - Did not state how art was clearly relevant to claims
     - Only relative to inventive concept
   - Helped in searching, but not in rejecting claims

- Statement of relevance was helpful and detailed→did not have to read whole reference
- Art help examiner understand an invention he or she was not familiar with
- Submissions provided more references which was reassuring since there was no IDS included

5. **How useful were the concise descriptions of relevance? Why/why not?**
- Made statements of what art was known
- Did not have specific composition that examiner was searching for
- Set up table format mapping the claim limitations to the part of reference relevant
  - organized by references
    - Cited multiple references
- Useful in eliminating art without reading whole document
- Useful to understand art and what direction to go with search
  - Provided keywords different from those in claims to use in search
- Very helpful
- Some descriptions were twenty-eight pages, others were one paragraph

6. **How relevant was the prior art submitted with respect to the patent application**
- Gave a broad idea of kind of language used for the invention
- Narrowed down area to focus on

7. **Did the 3ʳᵈ party submissions allow you to find prior art that was not easily found with the USPTO databases/resources? Why or why not?**
- Included more references and more language out there
- Some art overlapped with that of internal search, especially patents
  - Third parties used same sources as examiners (Google, USPTO databases)
- Helped narrow down which area to focus on → Compare claims → find prior art easier
- Provided NPL and foreign language art would not have otherwise cited
- Have to draw line at which point is office action overkill on same claims

Time Taken
8. **Did the inclusion of a third party submission increase/decrease the amount of time spent searching for prior art. Can you explain why?**
- Decreased
  - Gave idea of where to focus
- Information right in front of examiner
- Translations for foreign language references were vital and very helpful
- Submission came at end of prosecution → not much impact

- Inclusion of concise explanation resulted in more time reviewing submission but
  - Helped to go through quicker

- o Helped point out info harder to find otherwise

Conclusion

9. **Do you have any general suggestions on how 3rd party submissions could be improved?**
   - The earlier the submissions get in the better
     - o Would rather spend time reviewing third party submissions and other art in the beginning of case
     - o More time to read all information available before writing office action
     - o Submissions sent after First Office Action slow down decision making
   - Timeline is going to change over time as backlog decreases
   - Can slow down examination process
     - o Program improves quality of patents but inevitably hurts productivity
   - Text search in PAIR would make search easier

10. **Do you have any other comments/questions/concerns/thoughts about the Program?**
    - More public use
    - Program is examiner friendly and helpful
    - Would like submissions to be directed more towards claims
    - Generally third party submissions provide relevant information
    - Third party submissions are a good supplementary source
    - Because of time constraint ability to cite submissions on IDS and still make an Office Action is helpful
    - Third parties should be encouraged to check for amended claims before submitting

Appendix K: Picture Representations of Suggestions

This appendix includes the images of potential layouts of suggestions from the group for improvements to aspects of the Program.

Appendix K.1: Microsite for Pre-Issuance Submission

About

About AIA

Statistics

Submitting to USPTO

Quick Start Guides

FAQs and Help

Do's and Don'ts

USPTO Resources

Contact Us

Preissuance Submissions

About

What are Preissuance Submissions?

Preissuance submissions are prior art submitted by third parties. This prior art may include patents, published patent applications, or other printed published materials that are potentially relevant to examination of a patent application currently under review. The third parties can be any member of the public, other than the individual submitting the patent application who is required to disclose any prior art.

Figure K.1: Page 1 of Microsite

Preissuance Submissions

About AIA

The America Invents Act

On September 16, 2011 U.S. President Barack Obama signed into law (P.L. 112-29) the Leahy-Smith America Invents Act (AIA). The new law represented eight years of tireless efforts by Congress and stakeholders to craft a new bill that makes the most significant reforms to the U.S. patent law system in 60 years.

Key Provisions

Some of the key provisions of the AIA include:

- Transitioning the U.S. to a first-to-file system.
- Providing an enhanced grace period for inventors to safeguard patent rights against disclosures made by inventors made one year or less before the effective filing date, which allows inventors to engage in crucial negotiations with potential buyers or investors without fear of losing their right to a patent.
- Consistent with international norms, the definition of prior art now includes non-printed disclosures, including oral disclosures, made available to the public anywhere in the world.
- Providing prior art effect to US patent applications as of their foreign priority dates, thus eliminating the *Hilmer* doctrine.

Relationships to Global Practices

The changes created by the AIA help the U.S. align with international norms, which provides a renewed opportunity to harmonize the international patent system and facilitate office cooperation through worksharing with international patent offices. Top down alignment of applicable law harmonization coupled with the bottom up convergence at the practice and administrative level worksharing enables offices to increasingly work together to provide a higher quality examination, more predictability in prosecution process, and cost reduction for applicants for examinations around the world. We can no longer afford to ignore new economic realities and the enabling role that the patent system plays. The U.S. has recognized this economic imperative and acted by enacting the first 21st Century patent system. The time is now for widespread international agreement and commitment to making the global patent system simpler, more certain, and user-friendly for all innovators.

Figure K.2: Page 2 of Microsite

Preissuance Submissions

Statistics

AIA Statistics concerning Preissuance Submissions

Since September 16, 2012, the agency has been receiving filings under the preissuance submission. To follow is information on the number of raw filings received; the data here does not take into account whether the filing satisfied the statutory and regulatory requirements and was determined to be compliant. Additional data for the administrative trials is available via the PRPS Filing System.
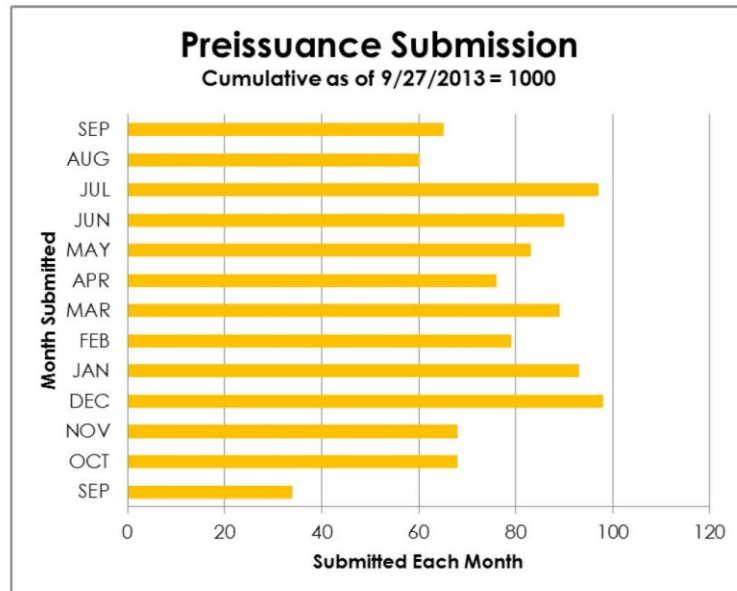
Figure K.3: Part 1 of Page 3 of Microsite

Preissuance Submissions

Statistics

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Third Party Dashboard

Figure K.4: Part 2 of Page 3 of Microsite

Preissuance Submissions

Submitting to USPTO

When to Submit

A third-party preissuance submission statutorily must be made in a patent application before the earlier of: (a) the date a notice of allowance under 35 U.S.C. 151 is given or mailed in the application; or (b) the later of (i) six months after the date on which the application is first published under 35 U.S.C. 122 by the Office, or (ii) the date of the first rejection under 35 U.S.C. 132 of any claim by the examiner during the examination of the application.

How to File

Third parties are encouraged to file third-party submissions electronically through the Office's dedicated web-based interface for third-party submissions, which can be accessed via EFS-Web. Submissions may also be submitted in paper through first-class mail, United States Postal Service (USPS) Express Mail service pursuant to 37 CFR 1.10, or by hand delivery. However, processing delays will be associated with paper submissions due to the scanning and indexing of these papers by the Office. Third-party submissions may not be filed by facsimile.

Type of Applications

A third party may file a submission in any non-provisional utility, design, or plant application, as well as in any continuing application, even if the application to which the submission is directed has been abandoned or has not been published. Third-party submissions may not be filed in any issued patent, reissue application, or reexamination proceeding.

Figure K.5: Part 1 of Page 4 of Microsite

Preissuance Submissions

Submitting to USPTO

Items to Include (Electronic)

Electronic requirements go here.

Items to Include (Paper)

1. Form PTO/SB/429 (or equivalent document list), identifying the publications, or portions of publications, being submitted [NOTE: use form PTO/SB/429 for paper submissions only; a completed form PTO/SB/429 will be automatically generated for electronic submissions];
2. A concise description of the asserted relevance of each item identified in the document list;
3. A legible copy of each item identified in the document list, other than U.S. patents and U.S. patent application publications;
4. An English language translation of any non-English language item identified in the document list;
5. Statements by the party making the submission that:
    i. The party is not an individual who has a duty to disclose information with respect to the application under § 1.56;
    ii. And, The submission complies with the requirements of 35 U.S.C. 122(e) and § 1.290; and
6. Any required fee, or the statement that the fee exemption applies to the submission.

Figure K.6: Part 2 of Page 4 of Microsite

Preissuance Submissions

Submitting to USPTO

Fees

A third party must submit the required fee for every ten documents listed or fraction thereof, unless the fee exemption applies to the submission. A third party is exempt from paying a fee for a submission of three or fewer documents, provided it is the party's first such submission and the party files a "first and only" statement. A second third party may take advantage of the fee exemption in the same application as long as the submission includes three or fewer items and is accompanied by the "first and only" statement. However, such statement could not be made where the third parties are in privity with each other.

A third party may file a subsequent preissuance submission if the need for the subsequent submission was not known at the time of the earlier submission. Any such subsequent submission would not be exempt from the fee requirement.

The fee must accompany a preissuance submission at the time of filing. Registered e-Filers who authenticate can save "in-progress" submissions and return to edit them prior to completing filing. Payment, in this instance, will be due when the filing is complete. Unregistered users, by contrast, must complete the filing and pay the fee at the time the submission is initiated.

A fee is required for every ten items or fraction thereof identified in the document list. If the third party does not qualify for the small entity discount, the third party would have to pay a fee of $360 for twelve listed documents (i.e., $180 for the first ten documents and $180 for the remaining two documents). If filing electronically, the third party in this example would need to split the twelve documents into two separate submissions, paying $180 for each submission.

When filing electronically, payment may be made on the "Pay Fees" screen by credit card, USPTO deposit account, or electronic funds transfer. When filing in paper, payment may be made by check, money order, credit card, or deposit account. Checks and money orders must be made payable to the Director of the United States Patent and Trademark Office. Credit Card Payment Form (PTO-2038) should be used when paying by credit card. Form PTO-2038 may be downloaded at http://www.uspto.gov/forms/index.jsp. To protect your credit card information, do not submit this form electronically through EFS-Web. Credit card information for electronic credit card payments should be entered exclusively on the USPTO Web site providing electronic payment capability.

Figure K.7: Part 3 of Page 4 of Microsite

Preissuance Submissions

Submitting to USPTO

Timing

First, check Public PAIR to determine if a Notice of Allowance (NOA) has been issued in the application. If the NOA has been issued, you may not file a third-party submission. If the NOA has not been issued, determine if a first rejection has been issued by the examiner or if the application has been published for six months or longer. You may file as long as the first rejection has not been issued <u>or</u> the application has not been published for six months.

If a third party files a preissuance submission on the same date the first rejection is mailed and the application has been published for more than six months, the submission would not be timely and would not be entered. All third-party submissions must be filed prior to, not on, the critical date. Where the application has been published for more than six months and no notice of allowance has been mailed, the critical date is the mailing date of the first rejection such that the third-party submission would need to be filed prior to the mailing date of the first rejection.

Holiday/weekend rule set forth in 37 CFR 1.7(a) applies to a preissuance submission.

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To submit by paper, click here.

To submit electronically, click here.

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Preissuance Submissions

Submitting to USPTO

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To submit by paper, click here.

To submit electronically, click here.

Processing

Third-party submissions that are not compliant with the statute will not be entered into the image file wrapper (IFW) record of an application or considered by the examiner. Instead, non-compliant preissuance submissions will be discarded. The Office will not refund the required fees or toll the statutory time period for making a third-party submission. Additionally, the Office will not accept amendments to a non-compliant submission, but the party may file another complete submission, provided the statutory time period for filing a submission has not closed. If a third party provides an electronic mail message (email) address with a preissuance submission, whether filed electronically or in paper, the Office will notify the third party of such non-compliance at the email address provided and will include the reason(s) for non-compliance. No notification will be issued where a third party does not provide an email address with the submission.

The Office will notify the applicant upon entry of a compliant preissuance submission in an application file if the applicant participates in the Office's e-Office Action program. The contents of a compliant third-party submission will be made available to the applicant via its entry in the IFW of the application.

A third party cannot electronically file a preissuance submission without a Confirmation Number for the application. The Confirmation Number can be obtained by looking up the application number in the Public Patent Application Information Retrieval (PAIR) System located at http://portal.uspto.gov/external/portal/pair and viewing the Bibliographic Data. If the Confirmation Number is not available or not known, the preissuance submission cannot be filed electronically and instead must be filed in paper.

Figure K.9: Part 5 of Page 4 of Microsite

Preissuance Submissions

Quick Start Guides

Preissuance Submissions

Here is the Quick Start Guide for Preissuance Submissions.

http://www.uspto.gov/patents/process/file/efs/guidance/QSG_Third_Party_Preissuance.pdf

EFS Web

Here is the Quick Start Guide for using EFS Web.

http://www.uspto.gov/patents/process/file/efs/guidance/EFS-WebQuickStartGuide.pdf

Figure K.10: Page 5 of Microsite

Preissuance Submissions

FAQs and Help

General Tips

Below are some general tips for submitting prior art.

FAQs

All of the FAQs go here.

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Preissuance Submissions

FAQs and Help

Concise Description of Relevance

The concise description of relevance must not propose rejections of the claims. Instead, the concise description should only set forth facts, explaining how an item listed is of potential relevance to the examination of the application in which the third-party submission has been filed. This is done, most effectively, by pointing out relevant pages or lines of the respective document and providing a focused description to draw the examiner's attention to the relevant issues.

Unlike the concise explanation for a protest under §1.291, which allows for arguments against patentability, the concise description of relevance required by 35 U.S.C. 122(e) is limited to a factual description of a document's relevance. The concise description of relevance, therefore, does not permit third parties to submit arguments against patentability or set forth conclusions regarding whether one or more claims are patentable.

Examples of Concise Description of Relevance

Examples go here.

Figure K.12: Part 2 of Page 6 of Microsite

Preissuance Submissions

Do's and Don'ts

General Tips

Below are some general tips for submitting prior art.

Things to Do

DON'TS

Things to Avoid

DOS

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Preissuance Submissions

USPTO Resources

Resources

Below are links to help with the submission process.
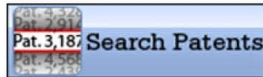
Search for a patent, search patent owners (assignments), and our attorney database.

Check the filing status of your patent application.

Read information for independent inventors.

Pay your patent maintenance fees and get patent bibliographic data.
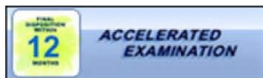
Read about the USPTO's procedures for accelerating the examination of your patent application.

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How to contact us and who to go to for help.

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Appendix K.2: Improvements on EFS Interface
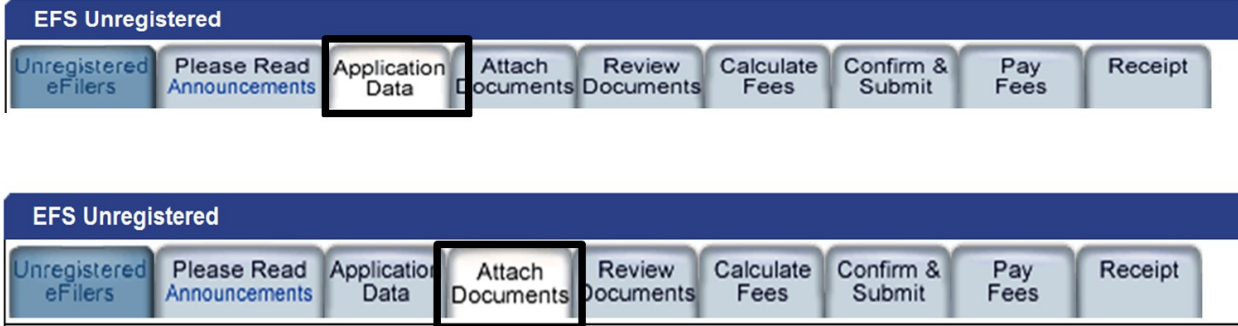
Figure Appendix K.2.1: EFS interface tab adjustments

Figure Appendix K.2.2: EFS interface adjustments to menu options