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*Teaching Case*

# When Technology Meets Tax

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## Abstract

Atrium Limited Liability Partnership (LLP), an architectural company with over 3,000 partners, addresses the business need to collect and organize signed tax forms to assist its international partners. This case discusses the challenges associated with the current manual process, the pursuit of a solution to automate and simplify this process and the risky decision to implement an in-house automated solution using an electronic signature. As is the case with many projects, time is of the essence and the company is taking a risk with committing resources to this project instead of following the cumbersome and inefficient tried-and-true way.

**Keywords:** Process Improvement, Custom Development vs Off-the-Shelf, Project Management, Electronic Signatures

### 1. INTRODUCTION

The sun was setting over the Gulf of Mexico on a late June afternoon and the tourists had started packing up for the day. A cool breeze was softly blowing and was rocking the few people who were still floating in the warm water. "There must be a better way to do this! I know it! There must be! Why am I thinking about work again?" Anna's vacation was coming to an end in a few days and thoughts about work had started sneaking back into her mind. She knew when she got back, it was time to start on the long, manual and very labor-intensive project of collecting forms from the partners. "I need to enjoy these last few rays of sunshine," Anna thought.

Anna was a Certified Public Accountant (CPA) who had joined the accounting department about a year and a half ago as a manager. She was still learning the job and trying to find the elusive work-life balance after returning from a maternity leave. The new position – a promotion, was definitely challenging and different from the one-way communication pattern typical for a compliance group. The need to collect information

from a large group of people, far beyond the capabilities of Excel, required Anna to learn Structured Query Language (SQL). Soon she found out the field was interesting, and she enjoyed the collaboration with the IT team; they were happy someone who understood accounting was trying to speak "tech" and were willing to answer questions and help Anna.

## 2. THE FIRM

Atrium LLP is a large architectural partnership with over 3,000 partners – all dedicated professionals and masters of their craft. Over the years, the firm has grown and earned a reputation as one of the best in the U.S. Atrium's typical clients are Fortune 500 companies and Atrium took pride in providing full-cycle services - from acquisition support for the perfect plot of land, through detail drawings and working with municipalities codes' departments, to interior design and construction project management. "We are easy to work with," is one of Atrium's core values.

Over the years, Atrium has expanded their business beyond the borders of the United States. While good for business, this expansion had some tax consequences. Working outside the U.S. borders meant that the Atrium's partners had to pay taxes in those foreign countries. Atrium's clients needed to withhold those taxes and remit them to their own governments; then report the withholding to Atrium and remit the remainder of the invoiced price for the project. This was placing an administrative burden on Atrium's international clients and was not in line with their own, "We are easy to work with" core value. In short – that was not an acceptable answer.

The only way to eliminate the withholding requirement was to provide a Tax Residency Certificate (TRC) to each client, which would allow the client to claim a tax treaty with the U.S. and thus, not be required to withhold tax from Atrium's invoices. This was better for the client because it reduced the administrative burden of collecting, remitting and reporting withholding tax payments from Atrium's invoices. It was also in Atrium's interest, because it meant serving their international clients better by truly being easy to work with and provided a means for faster invoice payments and increase in cash flow. But this was not better for Anna.

## 3. THE PROCESS

Many U.S. treaty partners require the IRS to certify that the person claiming treaty benefits is a resident of the United States for federal tax purposes. The IRS provides this residency certification on Form 6166, a letter of U.S. residency certification. The Internal Revenue Service (IRS) procedure for requesting a certificate of residency (Form 6166) from the Philadelphia Accounts Management Center is the submission of Form 8802, Application for United States Residency Certification.

Atrium had a problem - Partners were not considered U.S. residents within the meaning of the residence article of U.S. income tax treaties. Treaty benefits are only available to a partner who is a U.S. resident whose distributive share of partnership income (the percentage of income allocated to a partner from the total net income for all partners) includes the item of income paid to the partnership. Therefore, in order to obtain the certificate, Atrium had to provide:

1. The name and tax identification number (TIN) of each partner for which certification is requested and any additional information that would be required if certification were being requested for each of those partners.

2. Authorization (for example, Form 8821-see Appendix A) from each partner, including all partners listed within tiered partnerships. Each authorization must explicitly allow the third-party requester to receive the partner's tax information and must not address matters other than federal tax matters.

3. Unless the requester is a partner in the partnership during the tax year for which certification is requested, authorization from the partnership must explicitly allow the third-party requester to receive the partnership's tax information.

If certification is requested for purposes of claiming benefits under an income tax treaty for any period during the current calendar year or a year for which a tax return is not yet required to be filed with the IRS, a hand signed penalty of perjury statement (POP) is required from each applicant stating that such applicant is a U.S. resident and will continue to be so throughout the current tax year.

The IRS could not accept an early submission for a current year Form 6166 that had a postmark date before December 1 of the prior year. Atrium's submission consisted of 3,000 forms and counted as only one TRC, making the statistics of IRS team working on the request look very bad.

Aware of this fact, it was extremely important to Atrium's management to submit the forms as soon as the law allows to get in IRS's queue.

Due to the large volume of forms Atrium needed to submit, it took the IRS five to six months to produce the certificates. Any delays would risk the certificate process being delayed to the point the certificate is no longer useful.

## 4. THE ACCOUNTING DEPARTMENT

Since obtaining this form required dealing with the IRS, the accounting department was the default choice. The process depicted on the timeline diagram in Appendix B was what the department had followed to obtain the certificates.

When Anna transferred to this department, the process was mid-cycle. "Aren't you lucky you don't have to deal with this yet," she heard from her co-workers while they were gathering papers, binding forms and labeling report binders. "This is most of the forms, but not all. We tried to get them all the last time – it took us two years!!! By the time the IRS did their part, the certificates we received were three years old and nobody wanted them."

"We start by providing the forms to the partners via our secured portal," explained Haley. "The forms are prepopulated with each partner's data. The partners need to print them out, sign them, and return them to us by e-mail, fax or regular mail. Some of them take a picture of the form with their cell phones – I hope the IRS finds that acceptable. We have not heard back that it is not OK."

"When we receive the forms – that is two forms per partner- we need to print them, check them off the list and alphabetize the forms. It is hard keeping track of 6,000 forms, and they all contain Personally Identifiable Information (PII) – PII, such as Social Security Number (SSN) and full name, which require special handling and data safeguarding. Sometimes the partners send only one of the two forms, and they assume they are done. We send them reminder e-mails, but that only partially works, especially for those partners who think they got the e-mail in error. And this is all manual work, so our response is lagging as we must handle all the forms we have received before we can send a reminder."

"We have an assisting team to do some of the work, such as opening the e-mails and checking if the forms were signed, etc. They follow up with any partner whose form is incomplete or not properly completed…. But you can imagine that's hard for someone who faxes their form upside down – we get a two pages blank fax – how do we even know who sent it?!?"

"That is a really old inefficient process," Anna thought, "and so risk prone! All that PII just sitting in e-mail attachment – if we are lucky. Why can't we get this form submitted electronically?" she asked.

"The IRS will not accept anything other than a hand-written signature – nothing else! So electronic signatures are out, no DocuSign, no Adobe signature – IRS will not accept them. We need pen and paper."

"Back to square one," sighed Anna. "OK, if it is important to Atrium to provide this certificate to their international clients, and the IRS will not accept anything other than a ***handwritten*** signature, then it seems like we have no choice. "Why wouldn't the partners just sign the forms?!? It is not that difficult. Why does it take three months, two reminder e-mails and then a week of phone calls?" Anna asked James (her boss), half venting and half trying to figure it out.

"It is not that easy," said James. "The partners travel a lot to meet client needs. Most of the time they are at a client's location working from their field office. They do not have easy access to a printer and the documents have their full name and (SSN) – this is not something you want to print on just any printer. And say you do print it – then you need to figure out how to send it back. You need to ask for a scanner or a fax machine. This is not only inconvenient – it is not the image Atrium wants to have with our clients. The alternative is dealing with the forms when you are not serving clients or traveling for business – and who wants to do this rather than spend time with their family? There is no easy way! We just need to keep at it."

"Sounds like the required printing is causing the delay," replied Anna. "What exactly is the signature requirement? Does it have to be pen to paper?"

"Yes," replied James. "The IRS does not accept the electronic stamp Adobe places as a signature, and it doesn't matter how traceable it is – you can't argue with the IRS."

"OK, hand written. Does it have to be in ink? We don't currently collect original forms, right? If we can get a handwritten signature on the form, does

it matter how it got there? For example, whether we get a faxed/scanned form, or a form that is hand signed on screen, what we send to the IRS will look the same and will be signed by the same person."

"Yes," agreed James, "but how do you do it?" Inefficiency was one of Anna's biggest pet peeves – "There must be a better way to do this. OK, we need a hand-written signature on the form – how do we do this?" She had put this thought in the back of her mind, but with the end of June approaching it was time to start thinking about the forms again.

## 5. THE PROJECT

"If I can sign for my credit card on an iPad when I get a burger from a food truck, why can't I get these forms signed on a touch screen," thought Anna - "We all have touch screen laptops." The accounting department had some shared IT resources, but not much – just a couple of team members assisting with the database. "It is still worth asking." Due to the small scope of her IT request, there was no need for Anna to submit a formal proposal through the company's governance process, which was specifically in place for larger projects. This was a relief to Anna, since not having to go through a formal process to ask questions and discuss her idea with IT would save valuable time and expedite implementing a possible solution for signing and collecting the documents. Therefore, Anna promptly set up a call to discuss her suggestion with the team.

The first response was, "No, there is a huge difference between how an iPad and laptops work," she was told – it is different technology. She got the same answer for the comparison with a Point of Sale (POS) terminal in a grocery store.

Anna kept researching how to make this work – what was out there? Somebody surely had a solution that she could use. Adobe Sign seemed to be a product that would work. However, that required a costly paid subscription fee and trusting PII in Adobe's database. Anna brought that suggestion up in a conversation with James, but the subscription fees made it a non-viable option financially. Trusting PII to an external cloud was also not permitted by Atrium's IT department.

"How did Adobe do it for a laptop? The technology must exist," Anna thought. She called back the IT team and showed them what she had found Adobe Sign offers. This time she got, "We have never done this before. I guess we can give it a try."

The end of July was approaching, and the forms had not gone out to the partners yet. Anna scheduled a meeting with James to explain her plan. "Let me tell you why we have not distributed the prepopulated form yet," she started. "I am working with the IT team on having the ability to sign the forms on the screen with a stylus or finger – this way the partners no longer need to print the form, sign it, scan or fax it back to us and then destroy the physical copy. It will all be done via our secure portal, and we will have the signed form saved in our database. When we are ready to send reminders, we will have real time data on submitted forms. When it is time to print, they will already be alphabetized."

"We are talking about handwritten signatures, right?" asked James. "The IRS will not accept anything else. And… I am not sure this is a good idea – you will have every partner's signature in the database – what is preventing anyone from placing it on any document they want?"

"I understand your concern," said Anna, "and I see where it is coming from. Think about it – can I not copy your signature from any document you have signed? How is that different? To put your mind at ease, we are saving the whole document, and not just the signature, as the file. We should have the prototype ready soon."

"The whole document, right?" said James reluctantly. "I see the benefit, but it sounds risky. Do you think the partners will be OK with signing on screen?"

Anna was excited when she heard the IT team wanted to show her a prototype, and eager to get on the call. "We can't get it to work for a signature in the exact right place on the form, and that space is way too small for on screen signing," said Vijay, the lead developer. "That is why we created a signature box here on top – is that OK?"
"I would think so," replied Anna, "but display 'Please sign here' above it to make the required task clearer to the partner."

Vijay demonstrated how the signature box worked using a touchscreen or a mouse as a back-up option. Anna wanted to try herself, but…
"If you like what you see, we will need to place a ticket to move the build to the staging environment," explained Vijay. "Then we will let you know when it is ready for you to test. We do need you to verify a successful deployment – can you be on a call at 9pm?"

Anna was thrilled and more than willing to make the 9pm deployment call – her vision was finally starting to take shape. "I will be there," she replied.

Deployment to staging was a success and Anna was on a mission. "For deployment to production, our next step, we will need couple of partners to be on the 9pm call and test in production" explained Vijay. "Well," said Anna, "I can't give you a couple, but let me go talk with the partner I work with and see if he could do it. Partners are really busy, and it is not reasonable to expect them to be available for testing."

It was time for a status update, and Anna had scheduled one with James. She went into his office beaming – "Let me show you what we can do now!" She quickly pulled the form and demonstrated how the signature box captured the hand-written signature, with a finger, then with a stylus, and then with a mouse. "With only one click, the partners are able to see the Form 8821 and upon completion are routed to sign the POP form. When the form is released back to the accounting department, each partner received a confirmation e-mail with a link of the signed forms for his/her records."

"This will completely change how we collect forms," exclaimed James, happy with the prototype. "You understood the problem, and this is a solution that should work and get us back on track for the time we had fallen behind on this cycle. May I try it now?"

"That is why I wanted to have this status update in person," replied Anna. "We need your help. Could you please join us for a deployment call at 9pm? I don't have the same rights in the production environment that you have, and I don't think it will be appropriate to ask anyone else to test this process – it is new, and I think we should be careful." James was happy to help, and the production deployment was blissfully uneventful.

The accounting department sent the form to all Atrium partners with instructions of how they could sign on a touch screen or could still print, sign and email or fax the forms back. Although they started the process almost two months behind, the efficiency gained from the change of the process resulted in much faster collection of the forms. Very few partners, who most likely preferred the traditional method because it was familiar, chose the print/sign/scan/e-mail option. Others e-mailed back just to say, "This was so easy! Thank you!"

The year the process was changed had record compliance – the most forms that were collected before the deadline to send to the IRS. As Anna reflected on the lessons learned from the success of this project she noted that key benefits included saving time, improving customer satisfaction by simplifying a cumbersome task, and improving compliance. Her question now is how to apply this technology to provide such benefits to other document processes at Atrium?

## 6. CONCLUSION

Taking the risk on this project paid off for Atrium – it was easy for the partners to comply and despite the shortened timeframe, record percentage of forms completed was submitted. The forms collected from the partners were turned to the IRS on time and the TRC received earlier than any prior year.

## 7. DISCUSSION QUESTIONS

1. Do you think Atrium made the right decision to hold off on the "traditional" way they were collecting forms and risk getting behind schedule if this project failed?

2. Would you have gone through a different decision process?

3. Should other alternatives have been considered before choosing an in house solution?

4. Was any change management needed in this case? Why/why not?

5. Was any contingency plan mentioned/ available? What should the team do/have done if the implementation was not possible or timely? What should Atrium do looking forward to next year's tax cycle?

## 8. REFERENCES

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**Editor's Note:**

*This paper was selected for inclusion in the journal as the EDSIGCON 2018 Best Teaching Case. The acceptance rate is typically 2% for this category of paper based on blind reviews from six or more peers including three or more former best papers authors who did not submit a paper in 2018.*

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**Appendix A**

Form **8821**
(Rev. January 2018)
Department of the Treasury
Internal Revenue Service

# Tax Information Authorization

▶ Go to *www.irs.gov/Form8821* for instructions and the latest information.
▶ Don't sign this form unless all applicable lines have been completed.
▶ Don't use Form 8821 to request copies of your tax returns or to authorize someone to represent you.

OMB No. 1545-1165
**For IRS Use Only**
Received by:
Name
Telephone
Function
Date

**1 Taxpayer information.** Taxpayer must sign and date this form on line 7.

| Taxpayer name and address | Taxpayer identification number(s) | |
|---|---|---|
| | Daytime telephone number | Plan number (if applicable) |

**2 Appointee.** If you wish to name more than one appointee, attach a list to this form. **Check here if a list of additional appointees is attached** ▶ ☐

| Name and address | |
|---|---|
| | CAF No. |
| | PTIN |
| | Telephone No. |
| | Fax No. |
| | Check if new: Address ☐ Telephone No. ☐ Fax No. ☐ |

**3 Tax Information.** Appointee is authorized to inspect and/or receive confidential tax information for the type of tax, forms, periods, and specific matters you list below. See the line 3 instructions.

☐ By checking here, I authorize access to my IRS records via an Intermediate Service Provider.

| (a) Type of Tax Information (Income, Employment, Payroll, Excise, Estate, Gift, Civil Penalty, Sec. 4980H Payments, etc.) | (b) Tax Form Number (1040, 941, 720, etc.) | (c) Year(s) or Period(s) | (d) Specific Tax Matters |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**4 Specific use not recorded on Centralized Authorization File (CAF).** If the tax information authorization is for a specific use not recorded on CAF, check this box. See the instructions. If you check this box, skip lines 5 and 6 . . . . . ▶ ☐

**5 Disclosure of tax information** (you **must** check a box on line 5a or 5b unless the box on line 4 is checked):

**a** If you want copies of tax information, notices, and other written communications sent to the appointee on an ongoing basis, check this box . . . . . ▶ ☐
**Note.** Appointees will no longer receive forms, publications, and other related materials with the notices.

**b** If you don't want any copies of notices or communications sent to your appointee, check this box . . . . . ▶ ☐

**6 Retention/revocation of prior tax information authorizations.** If the line 4 box is checked, skip this line. If the line 4 box isn't checked, the IRS will automatically revoke all prior Tax Information Authorizations on file unless you check the line 6 box and attach a copy of the Tax Information Authorization(s) that you want to retain. . . . . ▶ ☐

To revoke a prior tax information authorization(s) without submitting a new authorization, see the line 6 instructions.

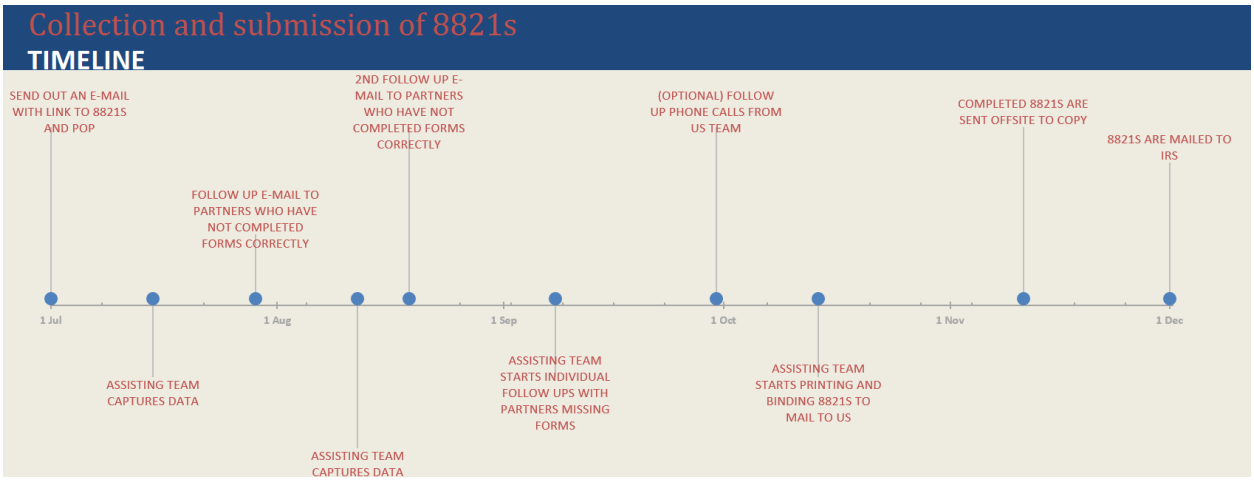
**7 Signature of taxpayer.** If signed by a corporate officer, partner, guardian, partnership representative, executor, receiver, administrator, trustee, or party other than the taxpayer, I certify that I have the authority to execute this form with respect to the tax matters and tax periods shown on line 3 above.

▶ **IF NOT COMPLETE, SIGNED, AND DATED, THIS TAX INFORMATION AUTHORIZATION WILL BE RETURNED.**

▶ **DON'T SIGN THIS FORM IF IT IS BLANK OR INCOMPLETE.**

Signature | Date

Print Name | Title (if applicable)

**For Privacy Act and Paperwork Reduction Act Notice, see instructions.** Cat. No. 11596P Form **8821** (Rev. 1-2018)

**Appendix B – Pre-system Timeline**