4 Keys to Unlocking Latent Revenue and Driving ROI with Your Address Data

Critical Processes for Peak Performance

smarty

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The average person doesn't think about address validation…and that's ok. Smarty's got you covered. Because address validation is our forte, we've broken the process into 4 simple things you need to be aware of to contain costs, reduce risk, and drive ROI.

It's important to note that not all address verification providers fulfill each step in the process. When providers skip steps or do them poorly, the returned data is often unreliable or inaccurate.

This eBook will give you the trade secrets to streamline your organization's operations with clean, accurate data and get the most out of your address verification tool.

4 KEY ADDRESS VALIDATION FACTORS CAN IMPROVE YOUR ROI AND UNLOCK LATENT REVENUE. MAKE SURE YOUR PROVIDER IS COVERING THEM ALL.

Without a complete understanding of what an address validation tool is doing, it's difficult to see what it might be missing. We're not saying you need to get your magnifying glass and start scrutinizing software code like a digital era Sherlock Holmes. But it helps to understand the main parts of the address validation process and why each piece matters.

In order to get the most out of your address validation provider, you'll want to make sure they deliver on each of the 4 keys covered in the this eBook.

Clean address data is essential for many business functions. One rapidly growing example is in eCommerce. _Predictions_ show this retail channel will be nearly 22 percent of all global retail sales by 2024.

Accurate address data helps eCommerce businesses reduce failed deliveries, cut down on shipping costs, prevent correction fees, and _improve the customer experience._

SPEEDWAY MOTORS OPTIMIZED THEIR ECOMMERCE CHECKOUT WITH ADDRESS AUTOCOMPLETE AND VALIDATION

Despite increasing traffic to SpeedwayMotors.com, eCommerce conversion rates were declining. To optimize their online checkout experience and improve conversions, Speedway Motors added Smarty's US Address Autocomplete and US Address Verification. Read the complete case study to see the result.

CASE STUDY

These 4 Address Validation Factors Are Often Missed — But Are Essential to ROI

1. ADDRESS PARSING

The first step in the address validation process is parsing or breaking an address into its components (house number, street name, city, etc.).

Humans can parse addresses manually, of course, but using a tool that automatically parses addresses decreases time spent entering data, typo probability, and the chances of data ending up in the wrong field.

2. ADDRESS NORMALIZATION

Normalizing an address simplifies sorting, duplicating, and merging for business processes. Poor normalization leads to decreased match rates, unreliable addresses, and dysfunctional data.

3. FUZZY LOGIC & ADDRESS MATCHING

Top-tier address validation services use fuzzy logic to increase the number of legitimate addresses they can validate. Fuzzy logic works much like a detective—examining clues about mistyped addresses and deciphering what the address really should be.

4. FULL ADDRESS VALIDATION

Some services don't provide full address verification. Not validating secondary address data, for example, may result in missing or incorrect house, building, or unit numbers. This leaves you to deal with poor data analysis, lost and returned mail, missed appointments, and angry customers.

1 ADDRESS PARSING

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Addresses and how people write them are all over the map—literally and figuratively. The USPS, has 502 "commonly used" street suffixes or abbreviations—meaning users have created hundreds of address variants. Normalizing and validating addresses before adding them to your database keeps your address data squeaky clean.

The first step in the address validation process? **PARSING.**

Address parsing is when you split an address into individual components or grouped components. For example, the house number, predirectional, street name, postdirectional, and unit numbers could go into separate fields.

502

The number of "commonly used" street suffixes or abbreviations, according to the USPS.

Take this address: **20 W 34TH ST., NEW YORK, NY 10001**
When you break it up into its components, you get:

INPUT

20 W 34th St New York, NY 10118

RESULTS

|	
United States	NY
20 W 34th St	10118
New York	

If your address validation provider doesn't parse the entered address or is only capable of limited parsing, it can cost you a lot of time and money. When filling out an address form, users must enter addresses by components manually. Clicking and tabbing from form field to form field is annoying enough on a desktop, but doing that on a mobile phone is maddening. Making users jump through these hoops unecessarily is a conversion rate killer.

Address validation that allows single box address entry is easier for the user. **Your users want a smooth, efficient experience. Give them what they want and you'll get a boost in your conversion rate and revenue all while cutting the costs from bad data. Error reduction alone can justify validation and make conversion rate optimization one of your best ROI opportunities.**

You've probably bought something online where you started typing your address into a single form field, and the form suggested the rest of your address for you. That's the magic of address autocomplete, a.k.a. the ultimate form of address parsing.
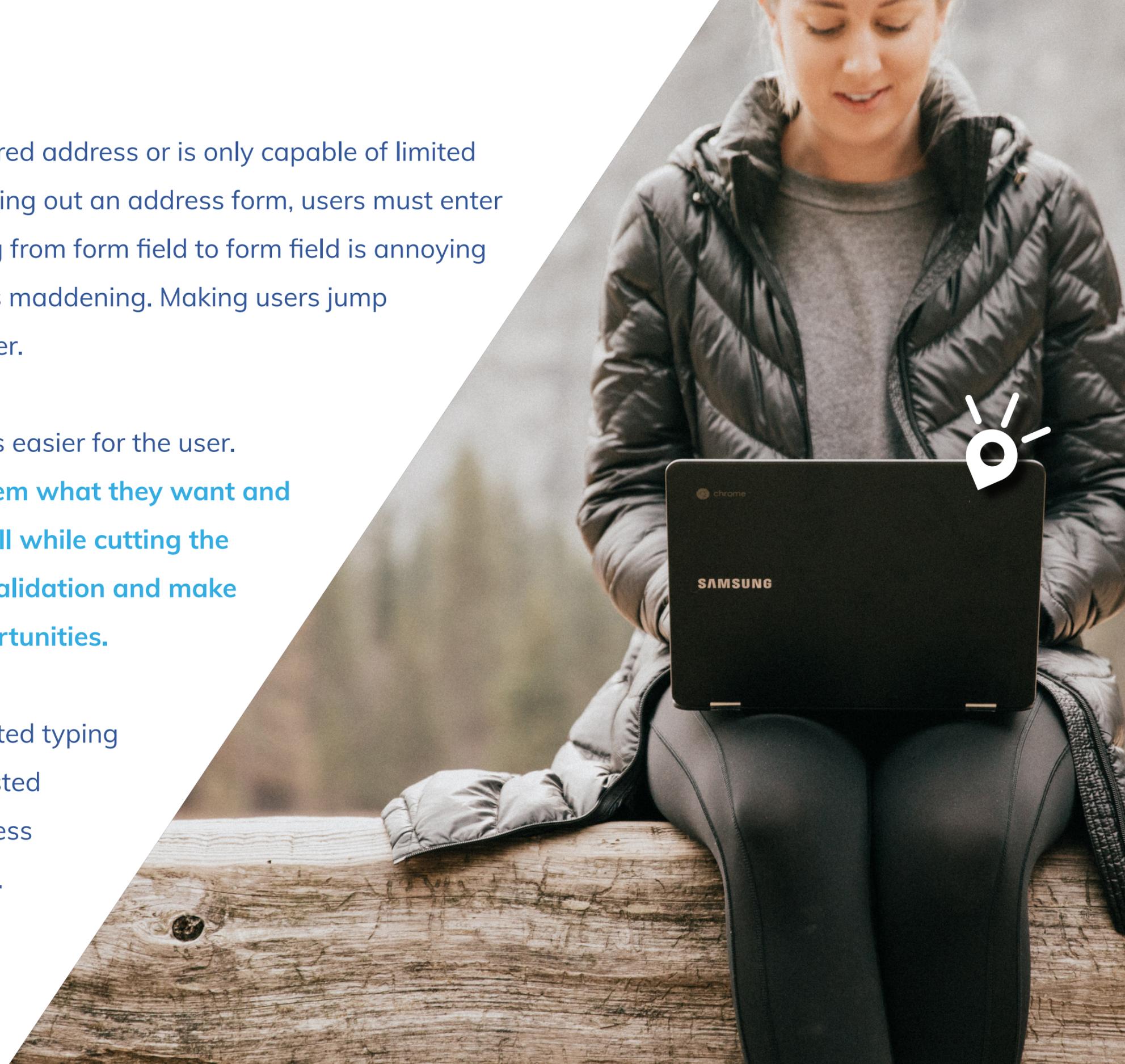
Look for an address validation service that offers autocomplete options for single field address entry. Doing so saves time by allowing address entry in a single field without needing to tab, click, or tap with each address component field. The validation service can still parse the address. Single address entry is especially handy on mobile devices.

Address autocomplete technology can also accept an address entry in a single field and predict parsed addresses automatically as a part of the input or output.

PARSING AT OUTPUT

1. The user starts filling out the address
2. The user selects an address from a displayed dropdown list
3. The address components don't show to the user but are available in the database

Using a provider that can break down addresses from grouped components into smaller components means more flexibility, accuracy, and ease of use. Much like mixing different colors of Play-doh, it's easier to combine components than to separate them.

PARSING AT INPUT

1. The user starts filling out an address
2. The user selects a predicted address from the dropdown list
3. The address automatically parses into visible fields

KEY TAKEAWAY:

- Address parsing is when you break up an address into its parts, including street name, house number, and more.

- Address autocomplete offers dummy-resistant address entry and parsing. Providing instant address feedback improves conversion rates and increases revenue.

2 ADDRESS NORMALIZATION

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Address Normalization consists of formatting an address to match the national postal authority standard. In the United States, that authority is the USPS. In Denmark, it's the Ministry of Transport. In Australia, it's the Department of Communications, and so on.

Each national postal authority creates its own rules that designate casing, punctuations, abbreviations, and proper ordering of address components for shipping purposes. If you want to dive into proper address format, _Publication 28_ is the 200-page address formatting guideline published by the USPS for the United States.

Putting an address into a standard format makes it easier to sort address data and use it for data cleansing and analytics.

PUBLICATION 28

200 page address formatting guideline published by the USPS for the United States.

IMPROVE LEAD SEGMENTATION

If you're building customer personas and demographic maps based on addresses that aren't normalized, you're probably working off inaccurate data. Unnormalized addresses make it harder to group current and prospective customers based on region, ZIP Code, city street, etc.

REDUCE SHIPPING ERRORS AND POTENTIAL FRAUD:

If USPS can't deliver an item to a requested address, you're either out the cost or might have to pay a return fee. Reduce costs and revenue at risk by mailing to accurate addresses on the first try. In addition, shipping products, bills, account information, or other mail with personally identifiable information to the wrong address could expose your customers to fraud. Your business is also exposed to fraud if your customers use multiple versions of the same address to receive free samples or other promotional items.

MANAGE YOUR DATA WITH CONFIDENCE

Bad data can destroy the best business initiatives. Normalizing your address data against an authoritative database like the USPS gives you clean data. With the most correct data available, you can make business decisions with a positive ROI.

Now, if researching those 502 "commonly used" street suffixes we mentioned earlier isn't your idea of fun, there are software tools that will standardize addresses for you into your desired format.

But remember—address normalization does NOT guarantee address validity. Address normalization merely converts an address into the correct format. Like stretching before exercise, standardization is essential preparation work for quality address validation.

HOW TO NORMALIZE ADDRESSES

MANUAL ADDRESS NORMALIZATION

You could go the do-it-yourself (DIY) route. The basic steps required to format most US addresses manually are:

1. Get the address you want to normalize.

2. Fix any misspellings.

3. Check the street name, city, and state. Confirm that all address information is correct.

4. Correct any abbreviations.
   While there are many ways—502, remember!— to abbreviate a street suffix, there is only one correct version of each abbreviation, according to the USPS.

5. Fix the address casing and capitalization.
   The United States Postal Service will accept either UPPERCASE format or Proper Case (text written with each of the first letters of every word capitalized).

6. Get the ZIP+4
   The ZIP+4 code is optional. However, including it could speed up your letter or package delivery by 2 days. Because ZIP+4 codes apply to only 10-20 delivery points, the Post Office can more easily pinpoint your mail destination with a ZIP+4.

7. Celebrate because you've normalized one address!

USE ADDRESS STANDARDIZATION SOFTWARE

If you have hundreds, thousands, or millions of addresses to standardize, this is one area where you'll be glad that computers are taking over.

Manually, address standardization could take days, weeks, or months to complete, depending on the number of addresses you have. Address normalization software will automatically correct messy, inconsistent addresses in a fraction of the time.
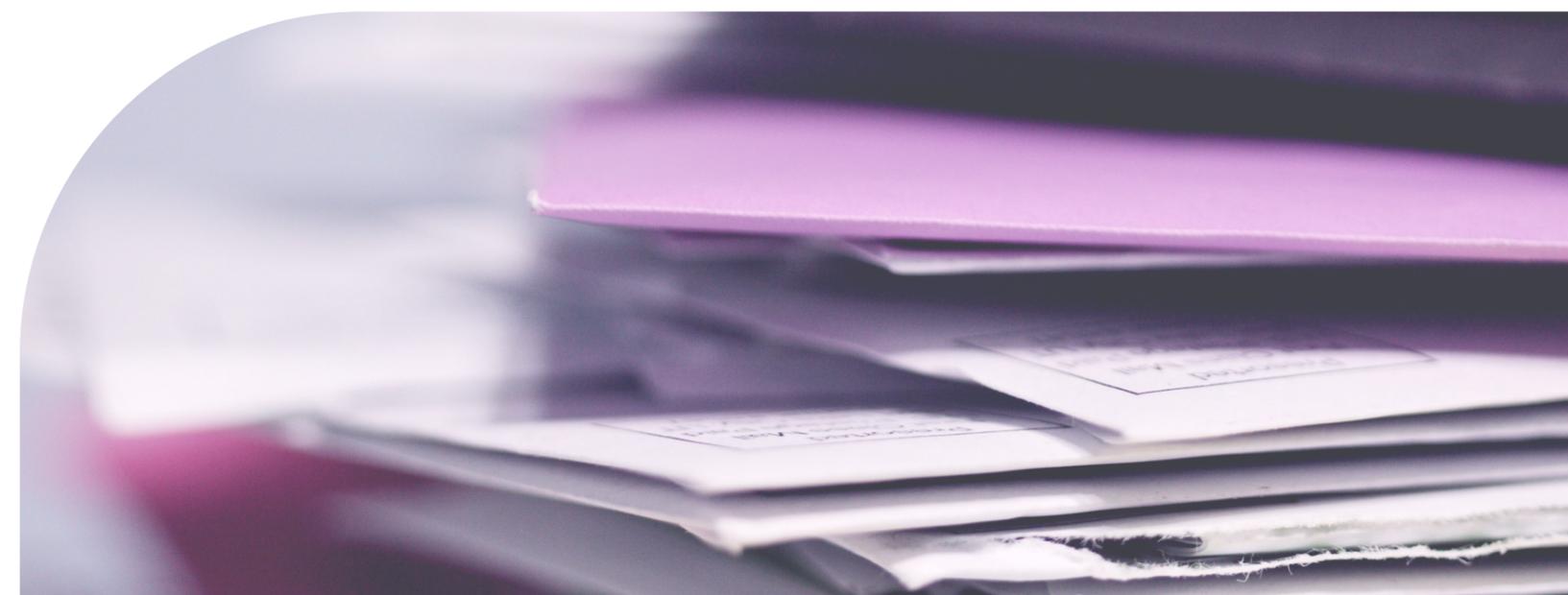
Once normalized, you have a correctly formatted address, including the addition of any lost city, state, or Postal Code information. Normalization includes USPS-approved spelling and abbreviations. Now, you can validate the address.

It's important to note that the DIY method works best for simple addresses. For high-volume or business use cases, you'll want to turn to a provider that facilitates batch processing or API integration—resulting in a strong ROI.

The key is to find the right software vendor.

LOOK FOR A CASS-CERTIFIED SOFTWARE PROVIDER.

Developed by the United States Postal Service, CASS address standardization is a certification program for standardization and address verification.
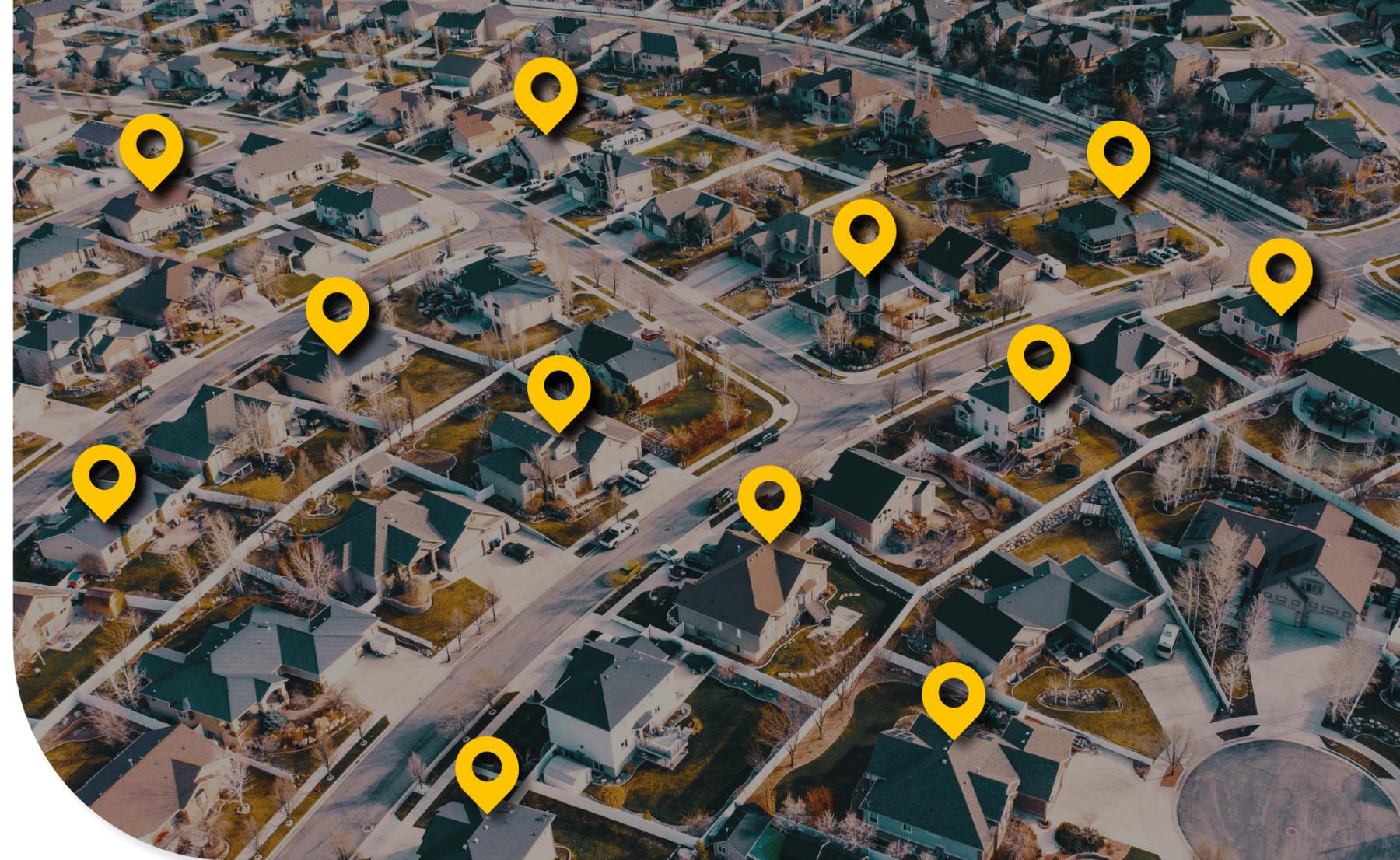
CASS-certified software will standardize your mailing lists according to USPS guidelines, update outdated addresses, and verify that the addresses are complete and valid.

KEY TAKEAWAY:

- Address normalization puts all addresses in a simple, standard format that's easy for the USPS and computer databases to understand. Standardization factors in spelling, casing, abbreviations, postal codes, and many more special cases.

- Normalizing or standardizing your address database will help you improve lead segmentation, reduce shipping errors and potential fraud, and confidently manage your data.

3 FUZZY LOGIC & ADDRESS MATCHING

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Typos are a fact of lfie (life). We occasionally misspell a word, leave off a letter at the end, or just type a different word than we intended. Unfortunately, when it comes to combining datasets, if addresses don't match each other exactly, a computer may fail to match them up.

Here are **12 COMMON MISTAKES** when entering addresses that exact address matching methods won't catch:

1. Spelling Mistakes
2. Missing Spaces
3. Incorrect Type (Street vs. Road)
4. Bordering / Nearby Suburb
5. Abbreviations
6. Synonyms: Floor vs. Level
7. Unit, Flat, or Apartment
8. Number vs. Letter
9. Extra Words (e.g., Front Door, Department Name)
10. Swapped Letters
11. Sounds Like
12. Out-of-Correct-Order

Situations like those above are where fuzzy logic address matching excels.

Fuzzy Matching (also known as Approximate String Matching) is a technique that helps identify two elements of text, strings, or entries that are approximately similar but not 100% the same.

Traditional logic is binary. A statement is either true or false. An address either matches exactly, or it doesn't. In contrast, Fuzzy logic indicates the degree to which a statement is true.

Using fuzzy matching helps to identify errors like the list above. However, there are nuances to fuzzy matching. The goal is to be fuzzy but not too fuzzy. Being too fuzzy increases the likelihood of false positives, aka creates matches for addresses that deserve to fail.

Using a fuzzy address matching algorithm, you can choose your tolerance level or what degree of similarity you'll accept.

For example, a provider can set a threshold of 0.8 and then test and adjust as needed to make sure as few false positives get through while still returning results and allowing for misspellings, incorrect entries, and varying formats.

Finding the balance is challenging, and some providers, like the USPS, don't offer aggressive enough matching.

Smarty has a multi-stage process that attempts to find a match using a reliable matching engine. That address is run through more aggressive matching processes when it finds no match. By only running failed addresses through additional stages, match rates increase with minimal risk of matching addresses that deserve to fail.

Fuzzy logic indicates the degree to which a statement is true.

ADVANTAGES TO USING FUZZY ADDRESS MATCHING

How does fuzzy logic stack up against traditional address matching? Fuzzy logic wins in different areas:

1. DETERMINING THE LIKELIHOOD OF A FULL MATCH
Rather than simply determining a complete match, fuzzy matching predicts the likelihood of a full match.

WHY IT MATTERS: Based on how high the probability of a match is, you can make better decisions about whether to consider those two addresses a match or adjust your tolerance settings. Fuzzy matching also gives you insight into the quality of your data.

2. HANDING MISSPELLINGS, FORMATTING ERRORS,
AND PHONETIC VARIATIONS
People often spell addresses based on how the street name sounds, leading to misspellings in your data. Traditional address matching won't catch those phonetic variations or if the customer doesn't enter the address in the standard format. Fuzzy logic is much better at handling misspellings and minor differences because it looks at how many characters are different when determining matches.

WHY IT MATTERS: Without the ability to easily pair up the same address, written in two different ways, it's harder to deduplicate address data and merge your records.

3. DISTINGUISHING UNIQUE ADDRESS INFORMATION
Some address verification providers accept minor variances in standard formatting (i.e., street vs. st, road vs. Rd, etc.). However, that won't account for street names or other non-standard address information. Fuzzy logic takes care of that.

WHY IT MATTERS: The more accurate your matches, the better your basis for making business decisions around that data.

LIMITATIONS TO USING FUZZY ADDRESS MATCHING

Depending on your tolerance level, there's still room for error. You might not catch some wilder misspellings or formatting errors. However, fuzzy address matching solves many of traditional address matching's weaknesses. The Smarty system prioritizes absolute matches over remote matches - to eliminate false positives.
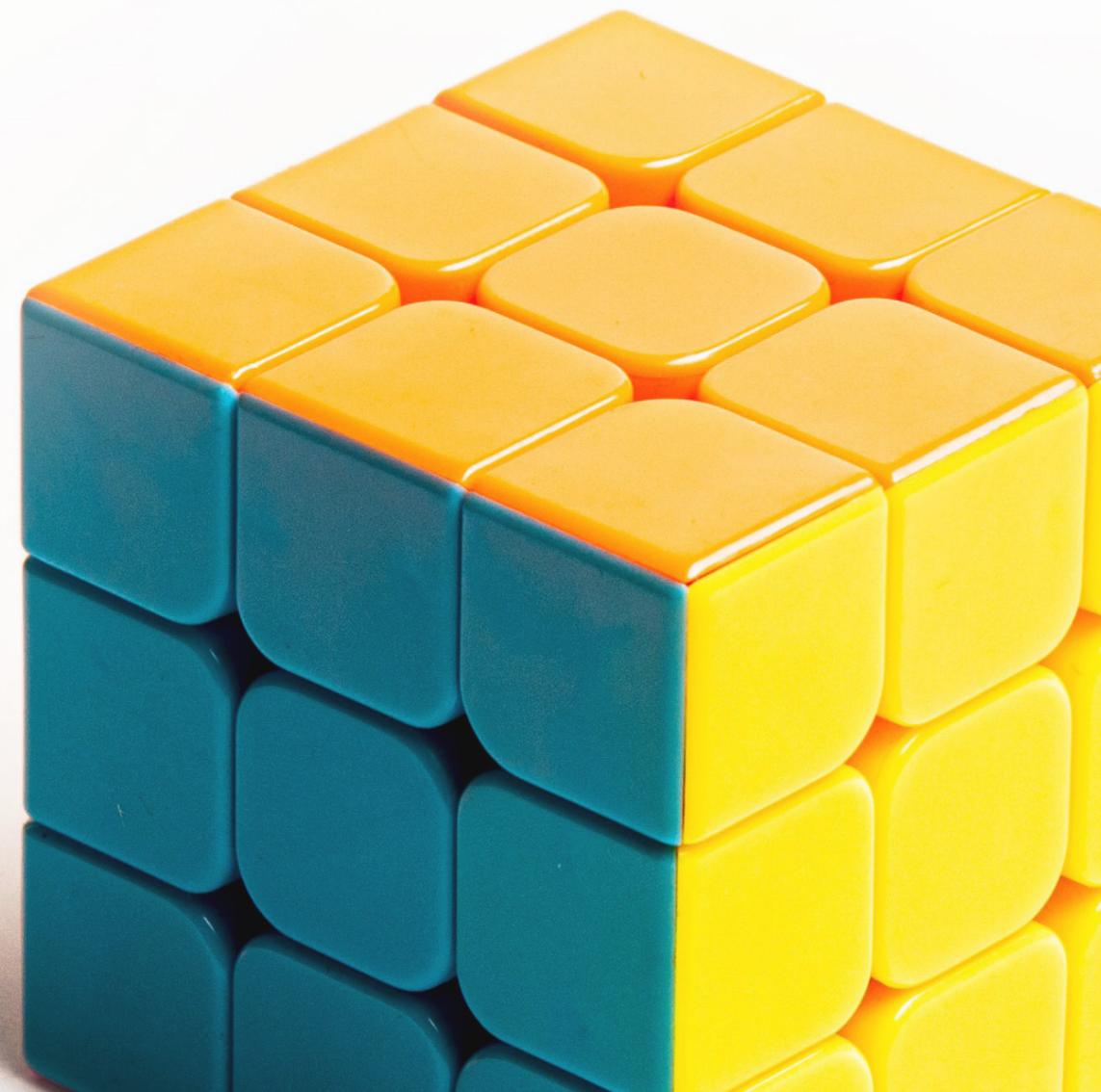
KEY TAKEAWAY:

- Fuzzy logic indicates the degree to which a statement is true. Using fuzzy address matching helps to identify errors like misspellings.

- Effective fuzzy matching increases match rates without creating additional false positives. Better match rates increase revenue by providing more usable address data and reducing costs by minimizing time spent on manual validation.

4 FULL ADDRESS VALIDATION

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Address validation (or verification) is the process of checking a mailing address against an authoritative address database. If the address matches an address in the known database, it's marked "valid" — meaning it's real. If an address doesn't match, it's marked "invalid."

Just because an address didn't validate doesn't mean it's not real.

REASONS AN ADDRESS MIGHT BE MARKED INVALID

- **Incorrect address:** Spelling or formatting mistakes can sometimes be so egregious that the software can't come up with an accurate correction, or flat out wrong information is given, such as incorrect street name or house number.

- **Imaginary address:** An entered address could be fake, hypothetical, no longer exist, or doesn't exist yet. Trying to validate an address on your street with a made-up house number or the address of the crumbling shoe factory that finally got torn down last year won't work.

- **Address not registered:** Some addresses won't be registered with any address authorities (think USPS, county tax assessors, utility companies) yet because they're for brand-new buildings. In addition, occupants that don't want/need to receive mail might not be in the USPS database. If an address isn't in the system, it's invalid because there isn't an address to match.

Millions of addresses exist in the US where the USPS doesn't deliver. The postal service also doesn't include these addresses in its database. If you have customers at those addresses, you need an address validation provider that references the USPS database yet doesn't rely soley upon it. A quality address validation provider will also utilize other authoritative private and public sources.

CHOOSING AN ADDRESS VALIDATION PROVIDER

Many providers get lumped into the "address validation" category but don't fully validate or might not even offer validation.

For example, some carriers often won't indicate apartment, building, or house number errors. The parcel service offers "street level" validation which means they'll validate that the state, ZIP Code, city, and street are actual, but not reliably for anything more granular. Say the first house on the street is numbered "590" and the last is "996" the carrier might call any house number inside the range of 500 - 999 as valid. If 15 houses are on the street, 484 possible invalid house numbers would still pass the carrier's validation.

As a location data intelligence company, Smarty takes validating every part of the address seriously, including indicating if an address is in an apartment building. This information helps you identify addresses with missing components—unit or floor numbers, for example—before it's too late to prevent lost and returned mail, missed appointments, angry customers, and more.

BUSINESS BENEFITS OF ADDRESS VALIDATION

In addition to what we just mentioned above—avoiding shipping issues and customer confusion—there are usually some other perks to validating your address data.

ELIMINATE DUPLICATES

Duplicate addresses can cause you to double your administrative work and expenses by sending multiple bills to what's the same location. You might also waste more money sending double the promotional pieces than you need. In addition, duplicate addresses make it difficult to segment your data accurately. The problem compounds when you have more than just one duplicate version of an address. What if you have 20 iterations of the same address? It happens.

REDUCE SHIPPING ERRORS AND POTENTIAL FRAUD

If USPS can't deliver to your requested address, you're either out the cost, or you might have to pay a return fee to get your product back. Reduce those costs and revenue at risk by mailing to accurate addresses on the first try. In addition, shipping products, bills, account information, or other mail with personally identifiable information to the wrong address could expose your customers to fraud. Your business is also exposed to fraud if your customers use multiple versions of the same address to receive free samples or other promotional items.

DATA APPENDING

Address validation providers often enhance their services with appended data and features. Data appending involves adding new information to your database—information that can greatly help your marketing efforts, customer segmentation, and strategy decisions.

Smarty, for example, focuses primarily on address validation and geocodes, both US and international. But in addition to the standardized and validated address, customers receive over 45 data points for each address.

WHY DOES THIS EXTRA INFO MATTER?

For marketing campaigns, as one example, knowing who your customer is, what they care about, and where they live is key to increasing outreach campaign efficiency and ROI. However, collecting data organically—asking potential or existing customers to share their information through an email sign-up or free download form, and building your data incrementally — is a slow, tedious process. Plus, that strategy can't provide information on prospective undiscovered customers. Data append services can fill in the blanks for your organization.

Relevant address data appending could include providing the census details and climate statistics of the area the addresses come from, the geocode coordinates of the address, congressional district information, whether or not an address is vacant, and more.

KEY TAKEAWAY:

- Address validation checks a mailing address against an authoritative address database. Working with validated addresses helps eliminate duplicates, reduce shipping errors and potential fraud, improves marketing and strategic planning data analysis, and prevents lost and returned mail costs.

Revenue-Driving Benefits of Clean Address Data
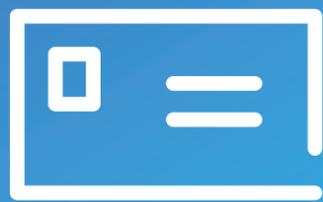
If you want to understand where your highest costs are coming from and where there's latent revenue to unlock, good data is the holy grail. You don't want duplicate addresses muddying up the waters and skewing your numbers. You don't want to set revenue goals or project future shipping based on addresses that don't exist.

Each address validation factor will help you contain costs associated with shipping, customer retention, positive customer reviews, and more. Plus, the better your data, the better you can segment your customer base and prospects for more targeted marketing and sales efforts.

HERE'S A QUICK RECAP OF EACH ESSENTIAL ADDRESS VALIDATION FACTOR AND WHY IT MATTERS:

1. Address Parsing:

If you're not automatically parsing addresses, your customers must manually enter addresses as individual components. That's not a good user experience and can lead to more time spent entering data, reduced conversion rates, more typos, and ultimately incorrect addresses entering your database.

2. Address Normalization

Not standardizing addresses will result in decreased match rates, inconsistent and unreliable data, and addresses that may not be useful for future needs as your business grows.

3. Fuzzy Logic & Address Matching

Using fuzzy logic instead of traditional address matching helps you better account for misspellings and formatting errors. Matching and deduplicating addresses with input errors becomes simple.

4. Full Address Validation

Not validating the full address—including secondary address info like apartment or suite numbers—leads to poor data analysis, lost and returned mail, missed appointments, angry customers, and more.

Clean address data obtained from parsing, standardizing, fuzzy matching, and full address verification unlocks latent revenue and drives ROI.

The benefits of clean address data reach all departments of your organization, including shipping, eCommerce, outside sales & technicians, marketing, customer service, and strategic planning. Here's how.

1. SHIPPING

Amazon has primed customers to expect their packages delivered quickly and accurately—right to their doorstep or garage. Clean address data helps you live up to those expectations and reduce shipping costs.

Consider this: If USPS can't deliver an item to a requested address, you're either out the cost or might have to pay a return fee.

A normalized address is easier for the USPS to understand and process, and a fully validated address is one you KNOW is correct and deliverable—down to the unit number.

Clean address data unlocks revenue & drives ROI by cutting shipping expenses related to misdeliveries, delays, damaged goods, reshipments, lost and returned mail, and address correction fees. Deliver to clean addresses and get it right on the first try.

2. ECOMMERCE

In today's increasingly digital world, eCommerce is a strong revenue driver if you're doing it right. And if you haven't implemented eCommerce yet, this is a massive potential revenue growth area.

Your users want a frictionless, efficient experience with your online forms and checkout. 70-80% of people admit to abandoning a form without completing it.

The most common reason for form abandonment is that it was too complicated or demanded too much information.

Speed up address entry, reduce typos and checkout friction with an address autocomplete API that has address validation built in.

Autocomplete with address validation unlocks revenue and drives ROI by increasing eCommerce conversion rates and reducing expenses related to address errors.

3. OUTSIDE SALES AND TECHNICIANS

Efficient routing is essential when sending installers, technicians, or sales reps into the field. The faster your people get to appointments, the more they'll complete per day.

Clean addresses with accurate apartment numbers help your team decrease time and expenses related to missed appointments, angry customers, being lost, attempting to get accurate directions, and rerouting.

Validated addresses unlock revenue and drive ROI by improving routing efficiency, logging more appointments, and wasting less time between appointments.

4. MARKETING

Reach more of your potential customers. Mailing to a clean list will get more mail in the hands of your intended recipients while reducing waste.

In addition, clean address data delivers a big ROI for marketing departments by reducing duplicate mailing expenses and helping your organization qualify for bulk mail discounts.

After implementing the address validation factors covered in this eBook, you might discover you've been wasting money sending promotions to what you thought were multiple different addresses, but they all represent the same delivery point!

Finally, according to the USPS, bulk mail is typically 35-65% cheaper than first-class postage for sales flyers, promotional postcards, or brochures. But to get that discount, you need to do the address validation work for them. Clean your list with a CASS-certified address validation provider to qualify.

Address validation unlocks revenue and drives ROI because it helps you get bulk mail discounts, improves delivery saturation, prevents duplicate mailing, and reduces returned, misdelivered, and lost mail.

5. REPUTATION MANAGEMENT

Word-of-mouth and referrals have always been among the best ways to generate new revenue. They're also one of the easiest ways to lose customers.

Misdelivered packages, late technicians, and lost or delayed mail are all surefire ways to lose customers and get you 1-star reviews that turn away future customers.

Clean address data unlocks revenue and drives ROI by helping you keep your shipping and appointment promises. Keeping those promises makes happier customers, fewer cancellations, better retention, more 5-star reviews, repeat buyers, and positive referrals.

6. CUSTOMER SERVICE

Having clean address data can help you set your customer service team up for success. If your customer service department enters address data, address validation paired with autocomplete will shorten phone calls and improve address accuracy.

Using validation anywhere you collect address data leads to fewer address-related errors, such as lost, delayed, and returned deliveries.

Fewer address errors mean fewer furious customers are calling in. Clean address data also decreases the reparations you need to give to appease those customers.

Running your addresses through validation means fewer outbound calls to customers, patients, or vendors to confirm or fix address info.

Address validation unlocks revenue and drives ROI by reducing time spent collecting customer information and cutting time spent on calls with shipping errors, address confirmation, and fixing bad address data.

7. STRATEGIC PLANNING

Precise location data pays dividends in strategic planning. If 20% of your address data is inaccurate, any assessments or planning based on that data will be inaccurate too.

Quality address data unlocks revenue and drives ROI by helping you get more accurate customer demographic and geographic information that aids location planning, ad placement, and identifying new lookalike demographics.

At its core, lousy address data creates avoidable costs and restrains boostable revenue. It's an unnecessary drain on your bottom line. Fixing the problem is much more manageable than people imagine.

Ensuring that your address validation provider utilizes these four factors will result in your organization's best address data and ROI. Don't settle for a service that doesn't offer what you need to reduce costs and grow your revenue.

SEE FOR YOURSELF

Go ahead and play around with some smart online _address verification demos_ to see the 4 factors in action. And don't forget to sign up for a _free trial_ to see how smoothly Smarty's developer-friendly APIs integrate with your systems.

Or, to help verify the business value, _get a friendly, custom evaluation_ on how improving your address data can easily unlock latent revenue and drive ROI in your business.

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