



The future of disaster recovery

**Driving transformation through
automation and analytics**

[kpmg.com](https://www.kpmg.com)





States and local governments, as well as citizens who have been impacted by a national declared disaster, are having to do more with less, including being held accountable when delivering valuable and efficient services to meet the rising expectations of the citizens they serve. To be successful, state and local governments need to have an efficient process in place to validate project worksheets that allows for timely flow of FEMA Public Assistance (PA) money to those who have been impacted.

The challenge makes a compelling case for automation and analytics. So how exactly do automation and analytics work together? Simply stated, it's a mix of new technologies that are creating clear opportunities to streamline business process, cut costs, and comply with regulations.

From software robots that automate routine and repetitive tasks, such as data entry and reviews, to complex, data-heavy, cognitive processes, advances in data analytics are changing the game—reducing costs while improving speed, accuracy, and control.

Through our work in conducting validation reviews of FEMA PA grants submitted by applicants, KPMG has identified many areas where data analytics along with automation can drive improvements that will ultimately provide immense value in the validation process, including helping manage the identification of fraud, waste, and abuse.

As a leading provider of disaster recovery services for state and local governments, KPMG has informed insight into the issues and inefficiencies that plague our clients and their constituents.

KPMG strives to drive value above and beyond what is asked—contemplating how we can help our clients get ahead in an industry that is historically complex. We consider the big picture as well as the intrinsic details to identify opportunities that promote efficiency and accuracy.

Leveraging automation and analytics to improve efficiencies

Streamlining the reviews of reimbursement claims

Reviews of reimbursement claims can be cumbersome and inefficient. A major area of inefficiency is how raw claims data is currently processed. Since applicants can submit raw data in many formats, claim reviewers are required to normalize the data before the information can be reviewed and validated. Leveraging advanced analytical methods, KPMG has a tool that is able to read claims data and standardize the data into a format that can easily be analyzed and tested. Once the tool has normalized the data, validation procedures can run automatically based on predefined testing attributes.

This effectively streamlines reviews for disaster recovery program claims, cutting down hundreds of hours of manual effort on behalf of reviewers, as well as increases the accuracy of the validation procedures. Additionally, automation can increase the speed of the validation of projects both small and large, helping grant funds get to those in need in a timely, expedited manner.



How KPMG can help

As part of the review of debris removal claims, reviewers are required to review and analyze debris removal load tickets. Depending on the size of the project, there may be hundreds or even thousands of load tickets to consider. KPMG has streamlined the review of debris removal projects by automating load ticket data extraction and testing. Load ticket documentation is normalized and processed in our tool and a report is generated with results of testing procedures, eliminating the need for reviewers to manually comb through large quantities of data and conduct validation on an individual load ticket basis.

A vertical photograph on the left side of the page shows several construction workers wearing hard hats and high-visibility safety vests. They are standing on a construction site with wooden framing and debris visible. The background is a clear sky.

Creating synergies within disaster recovery programs

Identifying instances of fraud, waste, and abuse

Often, disaster recovery reimbursement claims are reviewed in silos. Claims for reimbursement are assigned into a specific project and submitted by the applicant for payment. Upon submission by the applicant, the claim goes through various levels of review; however, none of these reviews include a comparison to other project claims. The isolated nature of reimbursement claim reviews creates opportunity for potential fraud, waste, and abuse, as reviewers are not considering claims across projects.

Leveraging data analytics, KPMG can review the data to identify outliers across all claims that have been submitted by the applicant in an efficient manner to identifier outliers. This approach assists our clients with managing and identifying risk of fraud, waste, and abuse. By comparing claims across the entire population of projects, KPMG is able to identify instances where duplicative costs are being claimed. The tool also gives us the ability to run other reasonableness tests and assess outliers, ultimately providing clients with impactful information that can add value and significantly reduce risk.



How KPMG can help

There are many reasonableness tests that can be built into this tool. One such reasonableness test is a test on labor claims across a given applicant's projects. By comparing timesheet data across projects, claims that appear to be identical across multiple projects can be automatically flagged and investigated further to determine accuracy and reasonableness. The illustration below depicts how pooling the data can bring forth labor outliers, specifically, employees who charged more than 24 hours in a given workday or more than 150 hours in a given workweek across projects.

Analytic 1: Determine whether a given individual charges labor in an impossible way

Employees exceeding 24 hours/day

5,215

Charged greater than 24 hours for day

Employee name	Employee title	Project number	Labor type	Labor date	Labor hours
Aaron Dotson	IT specialist	6839	Regular	9/19/2018	22.0
			Overtime	9/19/2018	2.4
		6992	Regular	1/25/2019	25.3
			8284	Regular	5/1/2018
		5/2/2018			12.4
		Overtime		5/1/2018	9.4
		9045	Regular	5/2/2018	18.8
5/21/2018	25.5				
Aaron Manning	Assistant external affairs officer – congressional affairs	6130	Regular	4/25/2018	26.0
			Overtime	4/25/2018	9.6
		8057	Regular	10/28/2017	18.9
			Overtime	10/28/2017	9.8
		8496	Regular	12/6/2018	26.2
				12/16/2018	30.5
				12/14/2018	41.9
				12/28/2018	22.8
		Overtime	12/6/2018	0.2	
			12/16/2018	2.0	
12/28/2018	1.4				
9461	Regular	3/2/2019	20.5		
	Overtime	3/2/2019	7.8		
Aaron Reyes	Air mission group supervisor	6485	Regular	11/16/2018	12.5
			Overtime	11/16/2018	12.4
		7433	Regular	11/30/2018	23.3
				12/22/2018	20.3
				12/2/2018	17.9
			Overtime	11/30/2018	0.8
		Overtime	12/22/2018	7.4	
			12/2/2018	6.8	

Charged greater than 150 hours week

Employee name	Employee title	Project number	Day of labor date	Labor hours
Cassandra Keating	Coordinator	6236	8/29/2018	141.8
			8/30/2018	1.9
			8/31/2018	11.1
			9/1/2018	6.7
David Ruiz	Quality assurance/ quality con.	9633	9/19/2017	150.5
			9/20/2017	7.4
			9/23/2017	10.6
			9/24/2017	7.5
Jon Messina	Finance and admin section chi.	7373	11/20/2018	24.8
			11/21/2018	2.0
			11/23/2018	96.6
			11/26/2018	34.5
Michael Black	Public rel agnt	8082	1/2/2019	120.9
			1/3/2019	18.4
			1/5/2019	11.2
Michael Coker	Staging area equipment specialist	6485	11/7/2018	10.9
			11/8/2018	9.5
			11/9/2018	12.9
			11/10/2018	20.1
			11/11/2018	1.5
Vernon Paul	Strategy and messaging.	9480	11/12/2018	107.1
			3/7/2018	14.7
			3/10/2018	9.0
			3/12/2018	150.5

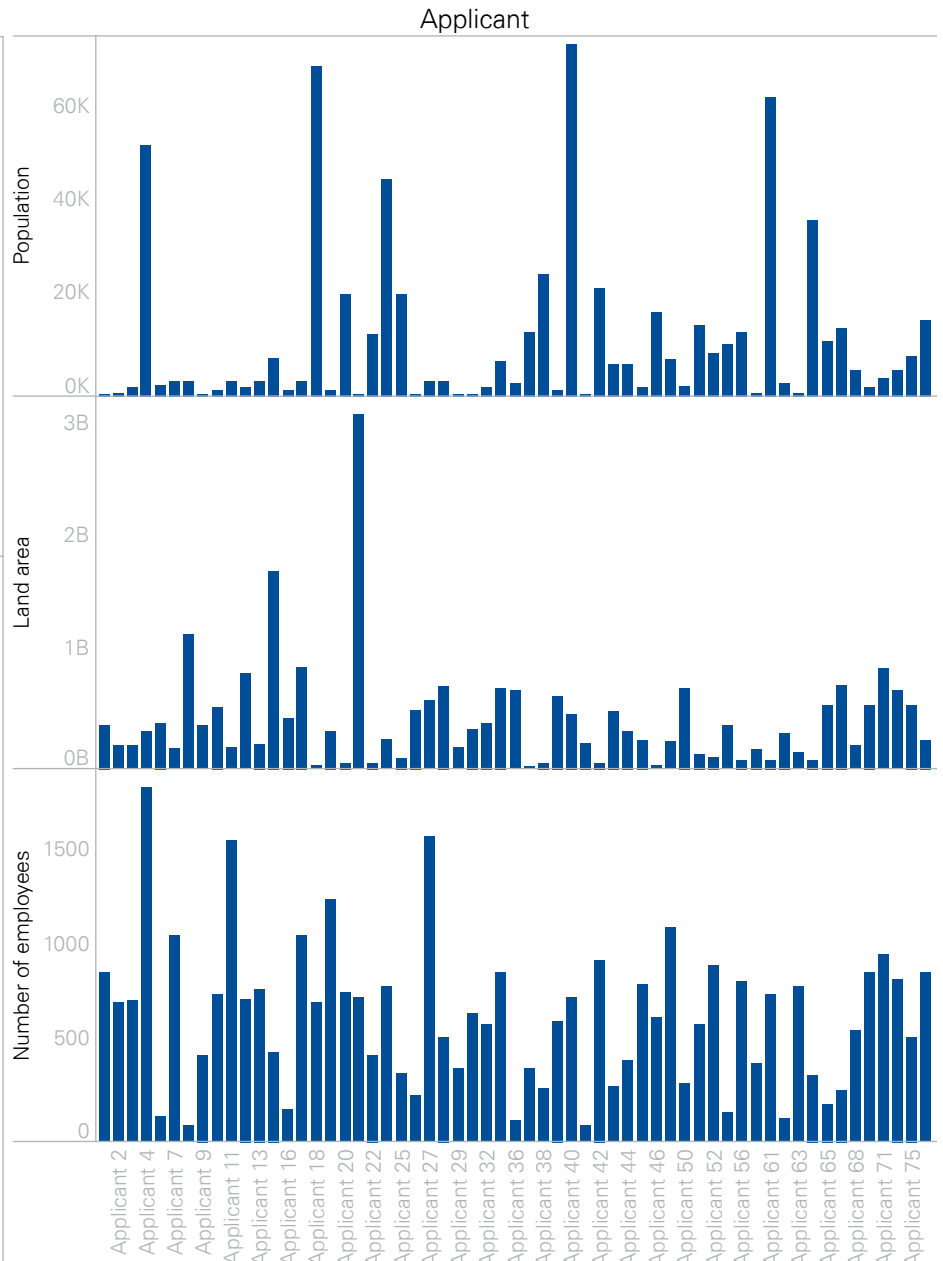
Another reasonableness test for labor involves comparing an applicant’s labor claims to the population size and land area of the applicant’s jurisdiction. By considering the applicant’s population size and land area, KPMG can assess the overall reasonableness of the volume of labor being claimed by an applicant.

Analytic 2: Determine if any applicant has a disproportionately large number of employees

Projects with employees more than 1 percent of municipality population

77

Applicant	Category	Project number	Number of employees
Applicant 1	E	9393	895.0
Applicant 2	D	7572	326.0
	E	8576	206.0
	G	9034	263.0
Applicant 3	F	7842	761.0
Applicant 4	B	6730	836.0
		9875	524.0
	D	9858	830.0
Applicant 5	G	9651	138.0
Applicant 7	F	9353	607.0
	G	6556	551.0
Applicant 8	B	6804	101.0
Applicant 9	F	6253	477.0
Applicant 10	E	9461	788.0
Applicant 11	A	6130	942.0
	G	8563	840.0
Applicant 12	F	9873	754.0
Applicant 13	E	6485	820.0
Applicant 15	D	7437	482.0
Applicant 16	A	9582	177.0
Applicant 17	C	6489	834.0
		7104	324.0
Applicant 18	C	8333	744.0
Applicant 19	A	7793	796.0
	F	6236	579.0
Applicant 20	B	8796	793.0
Applicant 21	E	6509	777.0
Applicant 22	A	6674	249.0
	G	9597	233.0
Applicant 24	D	9480	823.0
Applicant 25	A	7950	375.0
Applicant 26	A	7466	248.0
Applicant 27	F	7114	589.0



Use of artificial intelligence in disaster recovery

KPMG is working on an advanced data analytics tool to make the damage assessment of the disaster before and after it happens. A similarity score can be calculated based on the historical information collected from previous disasters, their types, severity, and impact on a state's assets, which can then be used to predict the damage of the potential disaster by weighing in the value of a state's assets located on the expected course of the disaster. Once the disaster occurs, the artificial intelligence (AI) tool can be used to compare drone images of the city from before and after the disaster. A list of a state's assets can be identified and classified based on their types to see how many of the state's assets have been damaged. The estimated monetary value for rebuilding the assets will then be used to assess the damage and will help the state in securing the funds quickly. The same tool can also be used to audit and track the construction progress in comparison to the funds allocated so far.

Long-term benefits of automation and analytics integration

Responding to a need for change and doing more with less, KPMG is at the forefront of disaster recovery process improvement. We are disrupting the current methods for reviewing reimbursement claims in an effort to create lasting enhancements. Through the use of automation and analytics, KPMG is poised to make a significant impact that will not only streamline reviews and expedite payment of claims, but will also drive added quality and value by identifying fraud, waste, and abuse that would otherwise have gone unnoticed.

Integrating data analytics and automation into the process is a huge step in the right direction for disaster recovery. It is helping to speed up the turnaround time from disaster occurrence to close out of the disaster and creates more budget certainty for state and local governments by improving quality of reviews.



Contact us

Anthony Monaco

Partner

T: 718-344-1241

E: amonaco@kpmg.com

Rory Costello

Principal

T: 518-729-7159

E: rcostello@kpmg.com

Viral Chawda

Principal

T: 214-840-2000

E: vchawda@kpmg.com

Heather Woodard

Manager

T: 850-671-7108

E: hwoodard@kpmg.com

For information on KPMG's Disaster Recovery Services, please visit

Read.kpmg.us/disaster-recovery.

Some or all of the services described herein may not be permissible for KPMG audit clients and their affiliates or related entities.

kpmg.com/socialmedia



The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act upon such information without appropriate professional advice after a thorough examination of the particular situation.