

How Treasuries Use Technology: Automating Processes, Mitigating Risks, and Increasing Controls

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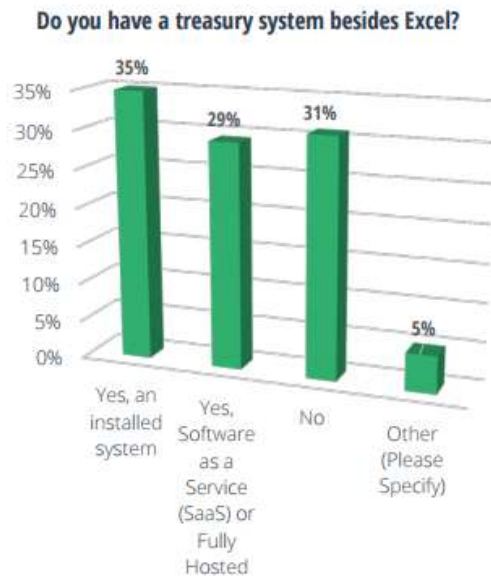
Profile – Salesforce.com

- Founded: 1999
- Revenue: 6.67B (2016)
- Employees: 19,000 (2016)
- Headquarters: San Francisco, CA
- Treasury Team of 19 – 15 in SF, 2 in Morges, and 2 in Singapore
 - Made up of four groups: Cash Operations, FX/Investments, Capital Markets and Cash Flow Forecasting, and Insurance

Profile - Bridgebay

- Independent, institutional consulting firm since 1987
- Registered investment advisor - Investment Advisor Act of 1940
- Specialized investment advice on corporate liquidity portfolios
- **Representative Clients**
 - High tech and biotech companies
 - Corporate foundations
 - Captive insurance
 - Nonprofits
- **Experienced, Practitioner Consultants**
 - Consultants have MBA, CFA, CIMA
 - Over 25 years investment experience
 - Located in San Francisco
 - Speakers at conferences: AFP, EuroFinance, MMX, Western Pension

Who Uses a Treasury Technology?



Strategic Treasurer's 2016 Rapid Research Technology Use Survey



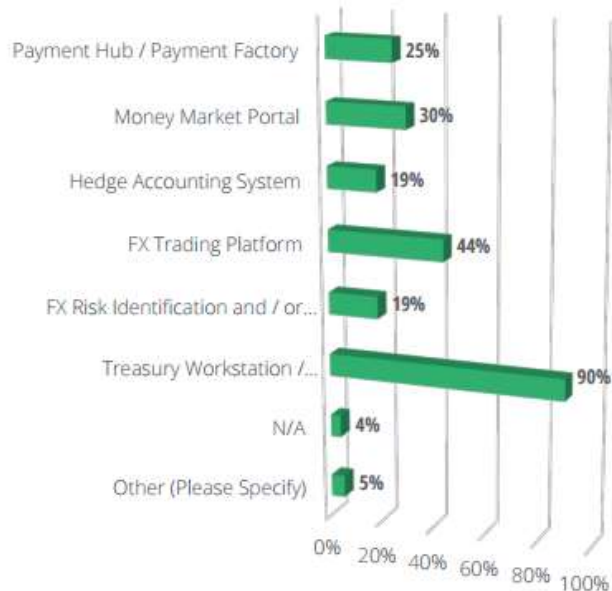
Source: Strategic Treasurer Webinar – Treasury Technology Quarterly Update
(<https://strategictreasurer.com/files/webinar-quarterlytreasurylandscapeq2-040617.pdf>)

Nearly **2/3rds** of firms have a treasury system beyond Excel.

While more firms currently have an installed treasury system, **SaaS solutions are on the rise** and are dominating new sales.

Which Technology is Most Common?

What treasury systems do you currently use?



Strategic Treasurer's 2016 Rapid Research Technology Use Survey

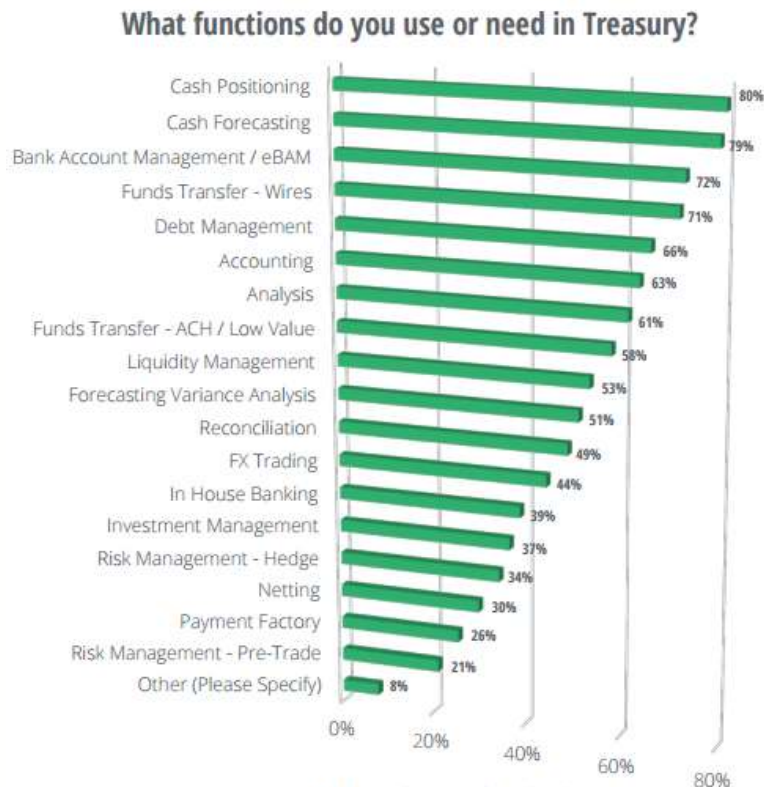


TMSs dominate the treasury system landscape.

Many firms elect to use their TMS in conjunction with other treasury systems/platforms (usually integrated through their TMS).

Source: Strategic Treasurer Webinar – Treasury Technology Quarterly Update
(<https://strategictreasurer.com/files/webinar-quarterlytreasurylandscapeq2-040617.pdf>)

What Technologies are Most Needed?



Strategic Treasurer's 2016 Rapid Research Technology Use Survey



Cash Positioning & Forecasting are the top two most used functions for treasury.

Bank Account Management & Funds Transfer round out the top 4.

Source: Strategic Treasurer Webinar – Treasury Technology Quarterly Update
(<https://strategictreasurer.com/files/webinar-quarterlytreasurylandscapeq2-040617.pdf>)

Treasury Systems

- Money Market Fund Portals
- Investment Management Systems
- Treasury Workstations (TWS/TMS)

CFO Sits On Top Of A House Of Cards



94% average # of spreadsheets
with errors in corporate America*

Excel hell

- Manual
- Slow
- Error prone/Risky
- Low accountability

*Source: Tuck School of Business – Dartmouth College, University of Hawaii College of Business

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Intraday FNAV Pricing

FNAV Strike 3x per Day

AM								PM											
8:00 AM	8:30 AM	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM	11:30 AM	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM	4:00 PM	4:30 PM	5:00 PM	5:30 PM
		Securities Priced		FNAV posted to MMF website	FNAV posts on MMF Portals			Securities Priced		FNAV posted to MMF website	FNAV posts on MMF Portals			Securities Priced		FNAV posted to MMF website	FNAV posts on MMF Portals		

FNAV Strike 2x per Day

AM								PM											
8:00 AM	8:30 AM	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM	11:30 AM	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM	4:00 PM	4:30 PM	5:00 PM	5:30 PM
		Securities Priced		FNAV posted to MMF website	FNAV posts on MMF Portals											Securities Priced		FNAV posted to MMF website	FNAV posts on MMF Portals

Cash Flow Analysis

	% of Portfolio Cash Flow			
Manager A	3 Months	6 Months	9 Months	12 Months
Duration: 0.5 Years				
Maturity Range: 0 - 2 Years	25%	51%	77%	85%
Manager B	3 Months	6 Months	9 Months	12 Months
Duration: 1.25 Years				
Maturity Range: 0 - 3 Years	11%	22%	29%	36%
Manager C	3 Months	6 Months	9 Months	12 Months
Duration: 1.75 Years				
Maturity Range: 1 - 3 Years	5%	12%	18%	21%

Shorter duration portfolio turns to cash faster, allowing for faster reinvestment at new higher rates, but sacrifices yield in the near-term. All portfolios have average credit AA.

Concentration Risk

Account	CUSIP	Description	Coupon	Final Maturity	% Consolidated
Manager A	865622BH6	SUMITOMO MITSUI BANKING	0.684	01/10/2017	1.50%
Manager B	865622AU8	SUMITOMO MITSUI BANKING	1.350	07/18/2015	1.81%
Manager C	865622BH6	SUMITOMO MITSUI BANKING	0.684	01/10/2017	1.50%
Manager D	865622BL7	SUMITOMO MITSUI BANKING	1.350	07/15/2017	3.76%
Manager E	865622BK9	SUMITOMO MITSUI BANKING	0.574	07/11/2017	4.20%
Manager A	961214CK7	WESTPAC BANKING CORP	1.500	12/01/2017	1.51%
Manager B	961214CK7	WESTPAC BANKING CORP	1.500	12/01/2017	1.51%
Manager D	961214CK7	WESTPAC BANKING CORP	1.500	12/01/2017	3.03%
Manager E	961214CK7	WESTPAC BANKING CORP	1.500	12/01/2017	3.03%
Total Consolidated Portfolio					21.86%

Proactive Credit Monitoring – “Cliffhangers”

Security Description	S&P	Moody's	Fitch	Outlook			Watch			Market Value	% Consolidated Portfolio
				S&P	Moody's	Fitch	S&P	Moody's	Fitch		
SOUTHERN POWER CO	BBB+	Baa1	BBB+	Negative	Stable	---	---	---	---	\$22,000,000	0.44%
SUNCOR ENERGY INC	A-	Baa1	NA	Negative	Stable	---	---	---	---	\$6,000,000	0.12%
TECO FINANCE INC	BBB	Baa2	BBB	Negative	Stable	---	---	Downgrade	---	\$5,000,000	0.10%
VOLKSWAGEN GROUP	BBB+	A3	NA	---	Negative	---	---	---	---	\$40,000,000	0.80%
WALGREENS BOOTS ALLIANCE INC	BBB	Baa2	BBB	Negative	Stable	---	---	Downgrade	---	\$16,000,000	0.32%
										\$89,000,000	1.78%

Minimum Credit Rating per IPS: BBB/Baa2/BBB

Extension Risk in Rising Rate Environment

- Callable Agency. Considered very safe, high quality, very liquid.
- Rating: AA+/Aaa
- WAL extended by +2.5 Years
- High negative convexity of -3.6 means it has the potential to extend again.

	Before Extension	After Extension	Change
Date	9/30/2015	10/5/2015	
Convexity	-4.0	-3.6	+0.4
Duration	1.0 Years	0.9 Years	-0.1 Years
WAL	0.07 Years	2.6 Years	+2.5 Years

Other Systems

- Foreign Exchange
- ERP Systems (Accounting)
- Internal Tools

