Best Practices Around Private Equity Data Management

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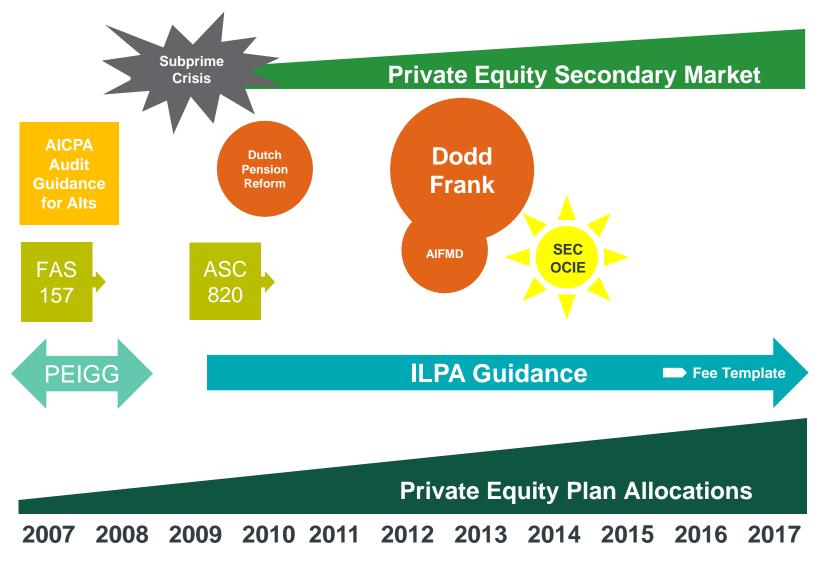
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A BRIEF HISTORY

Key events and catalysts of the past decade have shaped asset owner diligence and reporting.



THE DEMANDS OF PRIVATE EQUITY ASSET OWNERSHIP

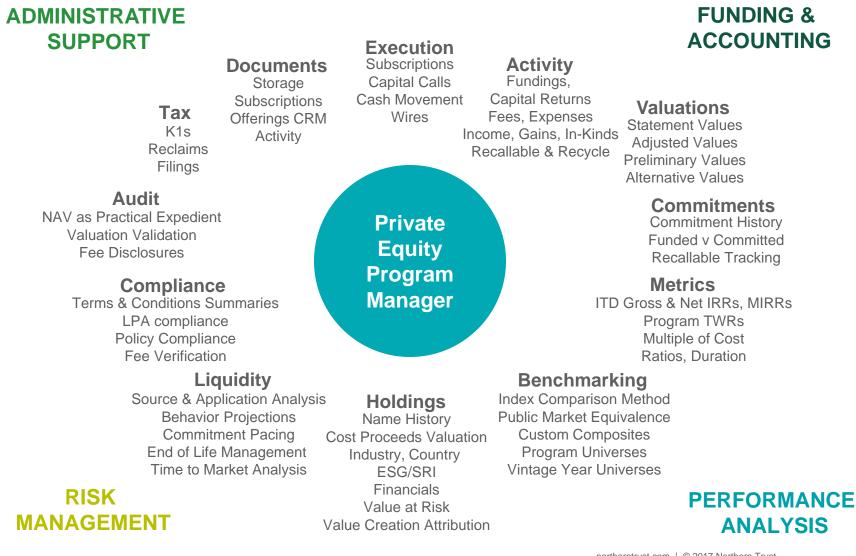
The worry points for asset owners are expanding and changing.

Cash Management & Wires		Co-Inves Direct Solo Investing		stments F	undings	Returns of Capital
Reclaims	K1s		ion Documents	Fees &	Expens	ses Tracking
UBIT	Capital Call	Executio	n Gains	Income		Statement Values
Tax Filings	CRM	In-kinds	s Management	Recallable	Tracking	Adjusted Values
Offerings	CIVINI	Funded	v Committed	Commitme	ent History	Preliminary Values
Doc	ument Storage		Conital Cal	Cradit E	adilition	Alternate Values
NAV as the	Practical I	Expedie	Capital Cal ent Modified	Internal Rates		Daily Proxy Values
	Validation	•		Inceptio	on-to-Da	te Gross IRR
		Progra	m Time Weighted	Rates of Retu	irns	Multiple of Cost
	Ident Valuation		ronono		Partne	ership Duration Measures
Terms & Condition			ranspa	ency	Inceptio	n-to-Date Net IRR
Waterfall	(Carry) Valida	ation	Pre Trade	Compliance		
	Fee Verificati		LPA Complian	се	Public	Market Equivalence
	& Application Analy	/sis	Fund Holdings N	ame & History	у В	enchmarking
		Fund Holdin			n Universes	Index Comparison Method
	d Holdings In	dustry &	Country Exp		Lin Male	
End of Life Manage		reiestiene	Fund U			ue Creation Attribution
	Behavior P			oldings Fina		Vintage Year Universes
lime to Ma	arket Analysis	; Progr	am Value at Risk	(VaR) Custo	om Compos	

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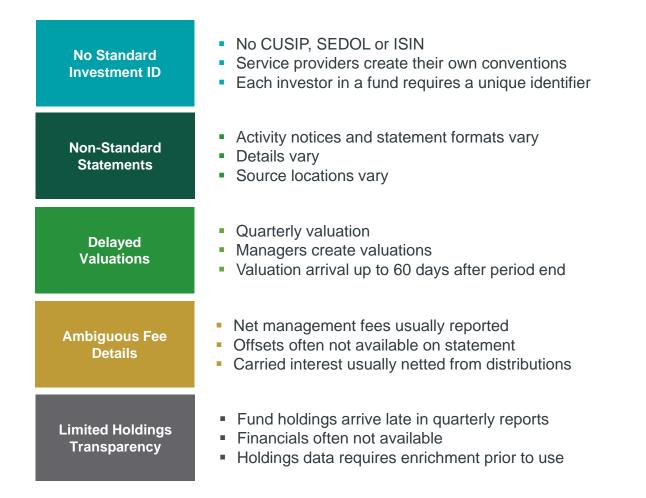
THE TASKS OF PRIVATE EQUITY OWNERSHIP

Tasks can be grouped into domains and types with activities growing as oversight requirements increase.



THE NATURE OF PRIVATE EQUITY DATA

The manual nature of private equity creates unique administrative challenges.



INDUSTRY STANDARDS

Industry promoted standards exist with varying efficacy.

	Limited Partners (asset owners)	General Partners (asset managers)
Data Standards	Institutional Limited Partners Association (ILPA) • Call and distribution templates • Periodic report templates • Fee templates • Embraced by asset owners • Slow adoption by managers	International Private Equity and Venture Capital Valuation Guidelines Group (IPEV) • Emphasizes statement completeness • No templates • Principles based • Wide adoption
Performance Standards	CFA Institute Global Investment Performance Standards for Asset Owners (GIPS) • Calculations • Benchmarking • Disclosures • Widely embraced	CFA Institute Global Investment Performance Standards for Asset Managers (GIPS) • Calculations • Composites • Disclosures • Widely embraced

Industry promoted standards do not supersede accounting or regulations. Accounting standards allow asset owners significant latitude.

PRIVATE EQUITY DATA PROCESSES

After commitments are made, the asset owner must manage the inefficient information flow.

Ingestion	 Interested party retrieves statements Profile created Manager documents and instructions require indexing and stored Required values interpreted and extracted from documents
Normalization & Validation	 Values require review for detail completeness Values require coding Values require review for consistency and reasonability Missing details must be requested from manager and booked
Accounting & Cash Movement	 Values applied to chart of accounts Capital calls paid and distributions booked Preferences and special procedures applied Adjusted valuations and roll forwards created
Analysis	 Data enriched for performance analysis Fund holdings appended Preferences and special procedures applied Multiple versions often created
Reporting	 Reports Dashboards Mobile data Feeds to and from other systems

THE STATE OF INFORMATION TECHNOLOGY

Technology is rapidly evolving and increasing information delivery efficiency.

Aggregation



- Holdings entity valuation data to GP
- GP to LP transparency data
- News and big data

Data Exchange



- Secure document delivery
- Completeness validation
- Peer to peer networks

Artificial Intelligence



- Robotics
- Machine learning
- Cognitive computing

Blockchain



- Digital identities
- Trade execution
- Frictionless settlement finality
- Real-time data reporting

TRANSPARENCY

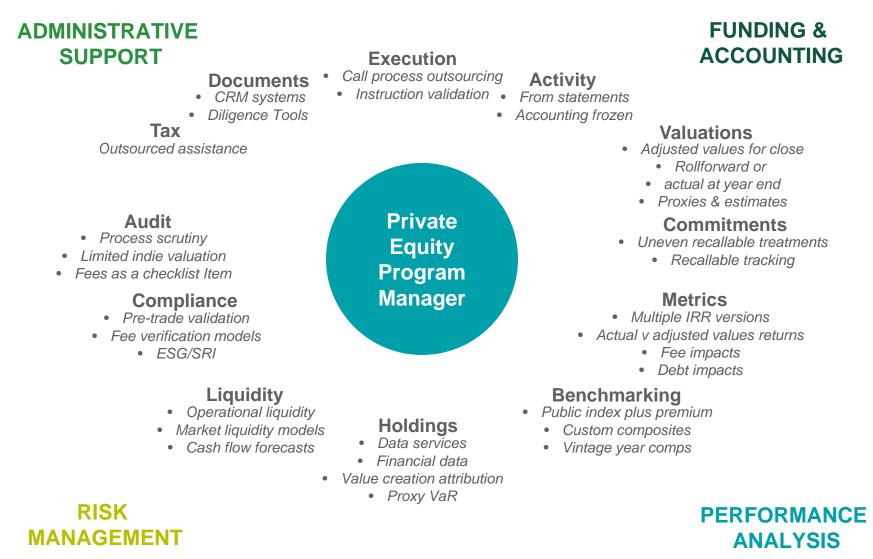
There are five important areas of transparency for the asset owner.



Transparency is contingent upon the cooperation of the general partner and the requirements of the asset owner.

ASSET OWNER PRACTICES

Practices vary by size and asset owner segment including use of external service providers.



QUESTIONS

Best Practices in Private Equity Data Management



SPEAKER BIOGRAPHY



As a Global Product Manager, Paul develops investment reporting and analysis services used worldwide by institutional clients and family offices. He specializes in alternative assets reporting, including the tracking, measuring, and administering of private equity and hedge fund portfolios. His experience at Northern Trust includes extensive risk & performance analysis consulting and investment policy development. Paul has also authored magazine articles and whitepapers on investment analysis topics.

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Prior to joining Northern Trust, Paul worked at SEI Corporation in their consulting services unit (formerly A.G. Becker). His experience at SEI includes product management, where he developed quantitative performance measurement analyses, capital markets research and asset/liability studies. Paul is a member of the research council of the Institute for Private Capital. Paul received a Bachelors degree from DePaul University and is a Certified Product Management Professional.

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