PROJETOPACK INTELLIGENCE • PAPER Nº: 002 • VOLUME: 1 • YEAR: 2026 • FREQUENCY: QUARTERLY

The Packaging Multiple Arbitrage Thesis

How Digital Print Converts Operational Flexibility into Enterprise Value for Niche Consumer Brands

5–10×	R$50–120k	3–7 days	0.5–1.5×
EBITDA multiple niche food M&A Brazil	annual packaging drag per small brand	vs. 4–8 weeks time-to-market delta	multiple uplift attributable to packaging

Series
PackFinance™ Papers · ProjetoPack Intelligence

Audience
M&A advisors · PE investors · brand CFOs · converters

Classification
Confidential · ProjetoPack proprietary framework

Aislan Baer

Founder, ProjetoPack · Editor, ProjetoPack em Revista

PROJETO PACK
Consultoria e Serviços para Embalagens, Rótulos, Etiquetas e Processos de Impressão.

Continuing Resource Title: ProjetoPack Intelligence Paper

Target Audience: Professionals in general, especially those working in the printing, packaging, and converting industries.

Content Level: Technical and Scientific

Publication Frequency: Quarterly

Primary Language: English

Other Languages: Portuguese

Main Subject: A series of analytical reports dedicated to the strategic analysis of the economic, technological, and behavioral transformations impacting the global packaging, labeling, and printing industries. The studies examine structural trends, shifts in industrial demand, technological innovation, consumer dynamics, and their implications for corporate strategy, investment decisions, and capital allocation across the packaging ecosystem.

Masthead:

Responsible Organization
Organization Name: ProjetoPack Desenvolvimento Profissional Ltda.

Address:
Rua Borges de Figueiredo, 303, Suite 611
Mooca District
São Paulo – SP
ZIP Code: 03110-010
Brazil

E-mail: revista@projetopack.com
Telephone: +55 11 2992-3871
Alternative Telephone: +55 11 99823-1861

Administrative Contact
Name: Andrea Gomes
Position: Administrative Manager

Organization: ProjetoPack Desenvolvimento Profissional Ltda.
Telephone: +55 11 99823-1861
Alternative Telephone: +55 11 94570-5209
E-mail: andrea@projetopack.com
Alternative E-mail: revista@projetopack.com

Summary

ABSTRACT

This paper argues that flexible packaging decisions represent an underappreciated lever of enterprise value creation for niche consumer brands — particularly in the food, beverage, and personal care segments. We introduce the concept of **"packaging drag"**: the cumulative financial cost of minimum order quantity constraints, artwork obsolescence, working capital immobilization, and time-to-market latency imposed by conventional printing technologies (gravure, flexography).

We develop the **Multiple Arbitrage Thesis**: that for brands operating at R$1M–R$20M in revenue, annualized packaging drag of R$50k–R$120k translates — when corrected through digital printing adoption — into EBITDA improvement that, at prevailing acquisition multiples of 5–10×, generates enterprise value uplift of R$300k–R$1.2M. This uplift systematically exceeds the per-kilogram cost differential between digital and conventional print over any investment horizon beyond twelve months.

The paper quantifies this argument using Brazilian market benchmarks, introduces the PackFinance™ Digital ROI Calculator as a practical decision instrument, and outlines strategic implications for converters operating HP Indigo and similar digital platforms in LATAM markets.

SECTION 1

1. The Wrong Conversation

When a brand owner meets a flexible packaging converter for the first time, the conversation almost invariably reduces to a single axis: price per kilogram. The converter presents a cost structure. The brand owner compares it against their current supplier. A decision is made that looks, on the surface, like a rational procurement choice.

It is not. It is a comparison between the visible cost of one production line and the invisible total cost of a business decision — conducted as if the invisible part does not exist.

Comparing cost-per-kilo of digital vs. gravure is like comparing the fare of a taxi ride with the cost of owning a car — without accounting for insurance, depreciation, financing, and parking.

The fully-loaded cost of a conventional printing relationship for a small brand includes: working capital immobilized in minimum order quantities, inventory carrying costs at Brazilian interest rates, the expected value of artwork obsolescence events, lost revenue from delayed launches, and the portfolio rigidity tax embedded in high setup costs. None of these appear in the cost-per-kilo comparison. All of them appear in the P&L.

1.1 Why the market perpetuates this frame

Conventional converters have no incentive to widen the comparison. Their economics are optimized for long runs and high setup amortization — both of which require the client to commit to volume. Surfacing the total cost of that commitment would undermine the sales argument.

Digital converters have every incentive to widen the frame but typically lack the financial vocabulary to do so. They are printers, not finance advisors. They sell flexibility. They do not build EBITDA models. The result is a persistent market

failure: the right argument exists but the right instrument to communicate it does not. This paper attempts to build that instrument.

1.2 Scope and terminology

"Niche consumer brand" refers to food, beverage, supplements, and personal care brands operating between R$1M and R$20M in annual revenue in Brazil, typically founder-led, with 3–12 active SKUs, in one of three exit trajectories: acquisition by a strategic buyer (CPG consolidator), acquisition by a PE-backed roll-up, or scale-up from a growth equity fund.

"Conventional printing" refers to gravure (rotogravura) and flexography as practiced in the Brazilian market, typically requiring minimum order quantities of 10,000–30,000 units per SKU and lead times of 4–8 weeks from artwork approval to delivery.

"Digital printing" refers to HP Indigo WS6900 and equivalent liquid electrophotography platforms, as well as high-speed inkjet (Domino, EFI Nozomi), capable of runs from 500 units with 3–7 day turnaround and zero plate costs.

"Packaging drag" is a proprietary ProjetoPack concept: the aggregate annual financial cost imposed on a brand by its packaging supply chain inflexibility, expressed as an EBITDA-equivalent figure.

SECTION 2

2. The Four Vectors of Packaging Drag

Packaging drag decomposes into four distinct financial mechanisms. Each has a different root cause, a different impact pathway, and a different correction mechanism under digital printing. Together they constitute the full cost of packaging inflexibility.

V1	V2	V3	V4
Working Capital Immobilization	**Artwork Obsolescence**	**Time-to-Market Latency**	**Portfolio Rigidity Tax**
MOQ × unit cost × Ke	frequency × stranded inventory	lost revenue × gross margin	SKU constraint × growth rate

2.1 Vector 1 — Working Capital Immobilization

A brand with a 30,000-unit minimum order at R$0.90 per unit commits R$27,000 to packaging inventory per SKU per production cycle. With three active SKUs, the standing packaging inventory reaches R$81,000. In the Brazilian interest rate environment — where the effective cost of capital for a small company ranges from 14% to 22% per annum — this inventory carries an annual financial cost of R$11,300 to R$17,800, purely from the time value of money.

This does not include the physical cost of warehouse space (R$800–R$2,500/month for a dedicated pallet area in São Paulo), spoilage risk from humidity or printing damage, or the opportunity cost of capital not deployed in growth activities.

> **Illustrative: GoBlenty Foods (R$3.5M revenue, 6 SKUs)**
>
> MOQ 15,000 units × R$0.85 = R$12,750 per SKU. Standing inventory 6 SKUs × R$12,750 = R$76,500. Annual carrying cost at 16% Ke = R$12,240. Storage R$14,400/yr. **V1 drag: R$17,000/yr net.** Under digital at 2,000 units per run: standing inventory R$10,200. Annual drag: R$1,632. **Net reduction: R$15,400/year on V1 alone.**

2.2 Vector 2 — Artwork Obsolescence

Artwork changes in niche food and personal care brands are not exceptional events — they are the normal operating condition of a growing brand. Triggers include:

- Nutritional labeling regulation (ANVISA RDC 429/2020 front-of-pack drove mandatory artwork revisions across all processed food categories in 2022–2023)
- Ingredient supplier substitution (a change in origin or specification of a key ingredient requires label revision under Brazilian food law)
- Retail listing requirements (GPA, Carrefour, and Assaí routinely request co-branded packaging variants as a condition of shelf placement)
- Brand repositioning (a typical niche food brand undergoes a meaningful visual identity refresh every 18–36 months in the growth phase)
- SKU expansion with packaging redesign (launching a new flavor or format typically triggers artwork changes across the full line for visual coherence)

Each artwork revision under conventional printing generates stranded inventory — packaging that cannot be used and must be written off. The financial impact per event ranges from R$6,000 (small run, partial write-off) to R$28,000 (full write-off of a recent production run). Expected annual cost: R$14,000–R$55,000 per brand.

Under digital printing, artwork obsolescence cost approaches zero. A design change costs a file revision. Stranded inventory disappears as a cost category entirely.

2.3 Vector 3 — Time-to-Market Latency

The 4–8 week lead time of conventional printing is not a neutral delay. It is a period during which a brand cannot respond to market signals, capitalize on seasonal windows, or execute the launch sequence its commercial team has planned.

- A functional food brand misses the September wellness window because artwork was approved in mid-August and packaging arrived in late September
- A craft beverage brand loses a retailer placement because the buyer requires a sample within 10 days and the converter needs 28
- A protein supplement brand launches a new flavor three weeks after its competitor has already captured the first-mover social media cycle for that flavor profile

Quantifying this vector: assume one meaningful launch delay per year, with a revenue impact of 20–40% of the new SKU's first-quarter projected revenue. At a 35% gross margin, the EBITDA cost of one delayed launch is R$8,000–R$24,000.

2.4 Vector 4 — Portfolio Rigidity Tax

The MOQ constraint creates a de facto tax on SKU diversification. Each new SKU requires a capital commitment of R$8,000–R$27,000 in minimum packaging inventory before a single unit is sold. For a brand in the R$2M–R$5M range with limited working capital, this constraint is binding — it limits the number of simultaneous SKUs to those the brand can fund at MOQ.

Concentrated portfolios are penalized at acquisition by buyers who model revenue risk on product concentration. A brand with 4 SKUs generating 80% of revenue is systematically valued at a lower multiple than a brand with 8 SKUs generating 80% of revenue from a diversified base — even at identical total revenue and EBITDA.

Under digital printing, the capital commitment per SKU drops from R$8,000–R$27,000 to R$800–R$2,700. A brand constrained to 4 SKUs by MOQ economics can now operate 10–15 SKUs with the same working capital envelope.

> **The compounding effect**
>
> A brand that launches 3 additional SKUs per year enabled by digital printing, each achieving R$120k in year-2 revenue at 35% gross margin, adds R$126k of incremental EBITDA by year 3. At a 7× exit multiple, this represents R$882k of incremental enterprise value — attributable in part to the packaging model that enabled the portfolio expansion.

SECTION 3

3. The Multiple Arbitrage Thesis

Having decomposed packaging drag into its four vectors, we can articulate the central thesis: flexible packaging decisions create enterprise value that systematically exceeds the per-unit cost premium of digital over conventional print. We call this the **Multiple Arbitrage Thesis**: the converter's higher per-kilo price is not a cost — it is an investment in a higher exit multiple.

3.1 The two-level value mechanism

The thesis operates through two distinct but reinforcing mechanisms:

Level 1 — Direct EBITDA improvement. Reducing packaging drag directly increases EBITDA. Fewer write-offs, lower carrying costs, more captured revenue windows. This EBITDA improvement, multiplied by the acquisition multiple, generates enterprise value uplift.

Level 2 — Multiple expansion. Independently of EBITDA level, buyers of niche consumer brands apply qualitative filters that affect the multiple itself: SKU portfolio diversification, clean working capital profiles, low inventory-to-revenue ratios, and demonstrated capacity for rapid product innovation. Digital printing adoption is a structural enabler of all four quality signals.

Mechanism	Driver	Enterprise Value Impact
Level 1: Direct EBITDA lift	Drag reduction R$50–120k/yr × exit multiple	R$300k–R$1.2M at 6× base multiple
Level 2a: Multiple expansion	Clean NWC, low inventory/revenue ratio	+0.25–0.75× on EBITDA multiple
Level 2b: Multiple expansion	Portfolio diversification, proven innovation velocity	+0.25–0.75× on EBITDA multiple
Combined effect	**Both mechanisms active simultaneously**	**R$500k–R$2.0M+ on typical niche brand exit**

3.2 Calibrated scenario analysis

The following three scenarios illustrate the thesis with calibrated Brazilian market inputs. Revenue and EBITDA margin at exit are held constant. Packaging cost, drag, portfolio breadth, and NWC profile are allowed to differ by technology.

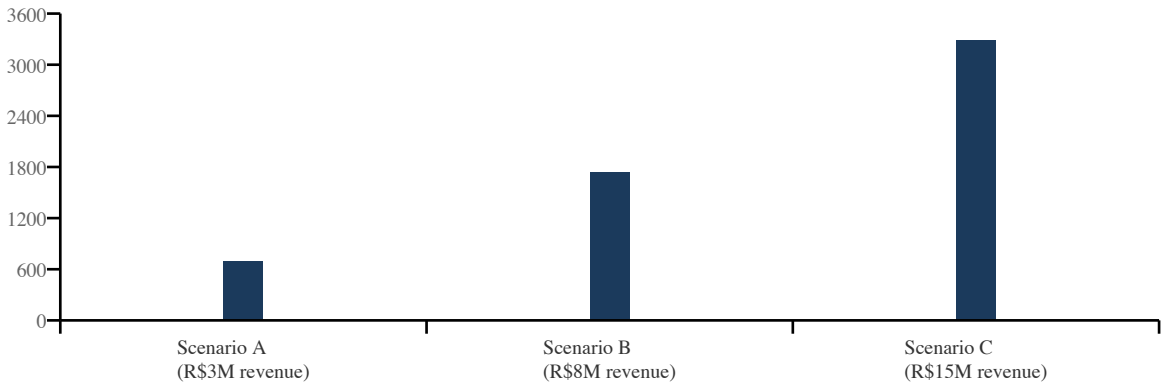
Parameter	Scenario A	Scenario B	Scenario C	Unit	Notes
Annual revenue	**3.0**	**8.0**	**15.0**	R$M	Pre-exit year estimate
EBITDA margin (base)	12%	14%	16%	—	Niche food benchmark
EBITDA conventional (R$k)	360	1,120	2,400	R$k	Before drag correction
Annual packaging drag	**52**	**88**	**118**	R$k	V1+V2+V3 combined
EBITDA under digital (R$k)	**412**	**1,208**	**2,518**	R$k	After drag correction
Exit multiple (conventional)	5.5×	6.0×	6.5×	—	Concentrated portfolio penalty applied
Exit multiple (digital)	**6.5×**	**7.0×**	**7.5×**	—	Diversified portfolio premium applied

Enterprise value (conventional)	1,980	6,720	15,600	R$k	Base case exit
Enterprise value (digital)	**2,678**	**8,456**	**18,885**	R$k	Alternative case exit
EV arbitrage (delta)	**+698**	**+1,736**	**+3,285**	**R$k**	**EV created by digital adoption**
Digital cost premium per year	18	32	48	R$k/yr	vs. equivalent conventional volume
Payback period	**< 4 mo.**	**< 4 mo.**	**< 5 mo.**	—	Cost premium vs. drag saving alone, excl. EV

The analysis reveals a consistent pattern: across all three revenue brackets, the enterprise value uplift ranges from 35% to 55% of the base enterprise value. The annual cost premium of digital printing recovers in under five months from drag savings alone — before any multiple expansion effect is considered.

The per-kilo cost premium of digital printing is the entry price of a positioning that, at exit, returns 15–50× the differential in enterprise value. It is not a cost to be minimized — it is a capital allocation decision.

EV Arbitrage by Scenario (R$k)



Illustrative directional impact. Actual magnitudes depend on brand profile, MOQ, artwork change frequency, and exit multiple assumptions.

3.3 Why acquirers pay the multiple premium

The multiple expansion argument depends on acquirers applying quality-of-earnings adjustments that reward digital-enabled brands. The evidence that they do is structural:

- CPG consolidators (M. Dias Branco, BRF, Nestlé Brasil, JDE, Mondelēz acquisitions of regional brands) systematically apply NWC-to-revenue normalization in deal pricing. A brand carrying R$80k in packaging inventory on R$3M revenue has a worse NWC profile than one carrying R$10k. This is priced in the deal.
- PE-backed roll-up platforms in Brazilian functional food, healthy snacks, and supplements explicitly model portfolio breadth as a multiple driver — because their exit thesis depends on the acquired brand contributing to a diversified portfolio that itself commands a premium.
- Growth equity funds conducting diligence on niche consumer brands assign qualitative scores to "operational scalability" and "innovation velocity" — both directly enabled by digital print flexibility.

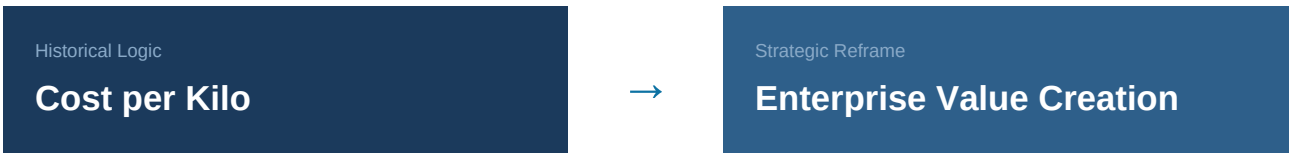
SECTION 4

4. Implications for Converters Operating Digital Platforms

4.1 From print vendor to financial partner

The most fundamental implication is that converters with digital platforms have the capacity — and the strategic interest — to reposition from print vendor to financial partner in the brand's capital structure narrative. This does not require converters to become investment bankers. It requires them to arrive at commercial conversations with a model that quantifies the financial impact of the packaging relationship.

A converter that can demonstrate R$700k of enterprise value creation on a R$3M brand is not selling packaging. It is selling a financial outcome. The price-per-kilo objection dissolves when the buyer understands the return on the cost differential.



4.2 Target segment precision

Not all brands benefit equally. The packaging drag argument is strongest for brands that combine:

- High artwork change frequency (functional food, supplements, craft beverages, pet food premium)
- Growth trajectory that implies near-term exit or fundraising (Series A readiness, active M &A interest from consolidators)
- Working capital constraints that make MOQ commitments costly
- Portfolio ambition currently constrained by the cost of SKU proliferation under conventional print

Brands in slow-innovation categories (commodity staples, private label, industrial food ingredients) are not primary targets. The converter's commercial intelligence should filter for innovation velocity as a proxy for drag magnitude.

4.3 The certification opportunity

An underexplored opportunity for digital converters is the creation of a packaging intelligence benchmark that brands can present in investor and M&A conversations: *"This brand operates a digital-first packaging model, independently benchmarked by ProjetoPack Intelligence, with a packaging drag index of X and an estimated NWC improvement of Y."*

This is analogous to ESG certifications in capital markets: a signal that reduces information asymmetry between sellers and buyers. The ProjetoPack BPI™, CPI™, and PPI™ frameworks already provide the institutional vocabulary for this kind of certification. The PackFinance™ extension into the brand-facing direction is a natural evolution.

SECTION 5

5. The PackFinance™ Digital ROI Calculator

The PackFinance™ Digital ROI Calculator is a decision instrument designed to be used by a converter in a commercial conversation with a brand owner or CFO. It takes fifteen input variables and produces five outputs. The model is calibrated for Brazilian market conditions.

5.1 Input architecture

#	Input Variable	Category	Notes and Brazilian Market Defaults
I1	Annual revenue (R$)	Company	Pre-exit year estimate
I2	EBITDA margin (%)	Company	Current operating margin
I3	Number of active SKUs	Portfolio	Packaging formats currently in production
I4	Minimum order quantity (units)	Conv. print	Current supplier MOQ — default 15,000
I5	Unit packaging cost (R$)	Conv. print	Current cost per unit — default R$0.85
I6	Inventory turns per year	Operations	Frequency of packaging replenishment — default 4
I7	Cost of capital (%)	Finance	Effective annual rate incl. spread — default 16%
I8	Artwork changes per year	Operations	Regulatory + commercial + brand triggers — default 3
I9	Avg. stranded inventory per event (R$)	Operations	Write-off value per artwork change — default R$12,000
I10	Delayed launches per year	Revenue	Due to lead time constraints — default 1
I11	Revenue impact per delayed launch (R$)	Revenue	Lost Q1 SKU revenue estimate — default R$80,000
I12	Gross margin (%)	Finance	Applied to lost revenue for EBITDA impact — default 35%
I13	Digital unit cost premium (%)	Digital	vs. conventional at equivalent volume — default 18%
I14	Target exit multiple (×)	Valuation	Expected acquisition multiple — default 6.5×
I15	Expected multiple expansion (×)	Valuation	Attributable to portfolio/NWC improvement — default 0.5×

5.2 Output architecture

#	Output	Formula	Interpretation
O1	**Annual packaging drag (R$k)**	V1 + V2 + V3	Total annual EBITDA cost of inflexibility
O2	**Net EBITDA improvement (R$k)**	O1 minus digital cost premium	Real gain after paying the per-kilo premium
O3	**Level 1 EV uplift (R$k)**	O2 × exit multiple	Enterprise value from EBITDA improvement alone
O4	**Level 2 EV uplift (R$k)**	Adj. EBITDA × multiple expansion	Enterprise value from multiple re-rating
O5	**Total EV arbitrage (R$k)**	**O3 + O4**	**Full packaging multiple arbitrage claim**

5.3 How to use it in a commercial conversation

The calculator is designed for real-time use in a meeting. The converter enters the brand's data — revenue, SKU count, MOQ, artwork change frequency — while the brand owner watches. The transparency is intentional: the model is not obscuring economics, it is revealing them. When the total EV arbitrage number appears on screen, the conversation changes irrevocably.

The recommended sequence: start with I1–I3 (revenue, EBITDA, SKUs) to establish the brand's scale. Move to I4–I6 (MOQ, unit cost, turns) to quantify the V1 drag. Then I8–I9 (artwork changes, stranded inventory) for V2. Then I10–I12 for V3. Finally I14–I15 for the exit multiple assumptions. Run the output. Then run a sensitivity: what if the exit multiple is 5×? What if artwork changes are only 2 per year? The answer, in all reasonable scenarios, is the same: the EV arbitrage exceeds the cost premium.

The calculator is available as an Excel workbook (portable, for field use) and as an interactive web application. Licensing for converter use is available through ProjetoPack Intelligence.

SECTION 6

6. Limitations and Boundary Conditions

The Multiple Arbitrage Thesis is robust within its defined scope but has meaningful boundary conditions:

- **Volume threshold:** the thesis weakens significantly above R$20M in revenue, where brands have the working capital to absorb MOQ constraints and where conventional printing becomes economically dominant on unit cost. The argument is calibrated for sub-scale niche brands.
- **Category dependency:** artwork change frequency is the primary driver of V2. In categories with low regulatory change and stable visual identities, total drag may be concentrated in V1 and V3 only, reducing the aggregate figure.
- **Multiple assumption sensitivity:** the exit multiple assumption is the largest driver of EV arbitrage output. Practitioners should run sensitivity analysis across the 4×–10× range and communicate ranges, not point estimates.
- **Acquirer sophistication:** the Level 2 (multiple expansion) argument depends on acquirers who apply portfolio quality and NWC assessments. In less sophisticated M&A processes — direct owner-to-owner negotiations without investment banking involvement — multiple expansion may not be fully realized.
- **Digital quality parity:** the argument assumes digital print quality is at parity with gravure for the target application. For certain packaging formats and substrate combinations, this assumption must be validated per application before deploying the commercial argument.

CONCLUSION

7. Conclusion

The central claim of this paper is both simple and counterintuitive: for niche consumer brands in the R$1M–R$20M revenue range, the fully-loaded cost of conventional printing relationships is higher — not lower — than the fully-loaded cost of digital printing relationships. The per-kilo premium of digital is real. The packaging drag of conventional is larger, less visible, and more consequential at exit.

The Multiple Arbitrage Thesis translates this cost analysis into enterprise value language. It argues that packaging is not a procurement category — it is a capital structure decision. The brand that understands this makes a better decision. The converter that enables this understanding creates a different kind of commercial relationship — one that is advisory rather than transactional, and that commands a different kind of loyalty.

Packaging is the only decision in a consumer brand's operating model that simultaneously touches COGS, working capital, innovation velocity, and exit multiple. It deserves to be treated as a strategic variable, not a procurement line item.

About ProjetoPack Intelligence

ProjetoPack Intelligence is the strategic research and advisory unit of ProjetoPack & Associados, a boutique consultancy focused on the flexible packaging, labels, printing, and graphic arts industries in Brazil and Latin America. Its proprietary frameworks — CPI™, BPI™, PPI™, SFI™, PackFinance™ — are used by converters, investors, and brand owners across the region.

Contact: inteligencia@projetopack.com.br

About the Author

Aislan Baer

Aislan Baer is Founder of ProjetoPack and Editor of *ProjetoPack em Revista*, one of Latin America's leading technical publications dedicated to packaging, labels and converting industries.

For more than two decades, he has worked at the intersection of industrial operations, strategic transformation and capital markets, advising converters, multinational groups and investors across the region.

His work focuses on industry consolidation, value creation prior to transactions and long-term strategic positioning of packaging platforms in emerging markets.

PROJETOPACK INTELLIGENCE SERIES

Paper #002 — The Packaging Multiple Arbitrage Thesis

PROJETO PACK
Consultoria e Serviços para Embalagens, Rótulos, Etiquetas e Processos de Impressão.

PROJETO PACK

Consultoria e Serviços para Embalagens,
Rótulos, Etiquetas e Processos de Impressão.

Rua Borges de Figueiredo, 303 - Con.j 611 - Ed. Átrio Giorno
Bairro: Mooca - CEP: 03110-010 - São Paulo - SP - Brasil

www.projetopack.com