Report For:

Investment Analysis of Local Smartphone Manufacturing in Pakistan

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Abstract

Pakistan's smartphone market is expanding rapidly yet remains import dependent. By the late 2023 there were approximately 192 million mobile subscriptions which is roughly 90% of the population coverage and 130 million broadband users which highlights a huge domestic demand. In 2020 the government introduced a Mobile Device Manufacturing Policy (MDMP) to incentivize local assembly, and by 2023 some 30–31 companies (Samsung, Nokia, TECNO, Infinix, etc.) had obtained licenses to take advantage of the scheme. This report evaluates the investment case for local smartphone production using discounted cash-flow models (Net Present Value, Internal Rate of Return, and payback period) and industry case studies (e.g. Infinix, Tecno, Samsung). We compare a local-manufacturing project versus an import-based selling business model. Our financial projections suggest that under the supportive policies of the government the local-production scenario yields higher NPV and IRR with a payback of 3 years rather than importing the same no of phones. Key strengths include tariff relief on SKD/CKD kits and strong consumer demand, while major risks are imported component reliance and economic stability. In sum, domestic assembly can be profitable and reduce trade deficits, but requires a stable policy, a stable exchange rate , logistical support, and investment incentives for long-term viability. Additionally, this study leverages real-world data simulations to create a dynamic investment framework, offering actionable insights for stakeholders aiming to evaluate profitability, efficiency, and sustainability of local manufacturing.

Introduction

Background

Over the past decade Pakistan's telecom sector has grown dramatically which is driven by affordable internet and the introduction of digital services. By

September 2023, the Pakistan Telecommunication Authority (PTA) reported almost 192 million mobile subscriptions and 130 million broadband subscribers. This increase has created a huge smartphone user base in the tens of millions. However, Pakistan currently fulfills most of this demand through imports. Local industry sources estimate domestic demand at roughly 22 million mobile phones per year, but prior to recent policies nearly all units were imported as Complete Built-Up (CBU) devices, contributing to large trade deficits in electronics.

To address this, the government launched the Mobile Device Manufacturing Policy (MDMP) in 2020 to encourage local assembly and production. Incentives include tariff reductions, tax holidays, and other benefits. Within three years, about 30 firms – including Samsung, Nokia, Tecno, Infinix and local players – received authorization to assemble phones domestically. As a result, local manufacturing has grown from near zero to tens of millions of units per year.

Despite these gains, investors still face uncertainties. Local plants depend on imported components (chips, batteries, displays), so exchange-rate fluctuations and supply-chain bottlenecks directly affects the day to day operations. Policy consistency is another concern letter-of-credit restrictions and occasional duty changes have in the past halted production and led to job losses in this already fragile sector. Financing terms for large capital expenditures (e.g. build-out of factories) also remain stringent in Pakistan's macro environment. Thus, while market demand is high, it is unclear if long-term profitability of assembly can exceed the simplicity of the import model.

Literature Review

Globally, manufacturing hubs (China, Vietnam, India) share some success factors: access to component supply chains, reliable energy/logistics infrastructure, and strong government support (tax breaks, subsidies, tariff structures). For example, India's Production Linked Incentive (PLI) program for mobile devices has attracted Apple, Samsung and others, leading to multi-billion-dollar export growth. In general, locations that keep import duties on

assembly kits low (often a fraction of CBU duties) and align industrial policy with manufacturing incentives tend to attract smartphone OEMs.

Key success factors in mature ecosystems include:

- **Local Supply Chain:** Availability of component parts (screens, processors) or proximity to suppliers.
- **Logistics & Infrastructure:** Reliable electricity, ports, and transport to ensure uninterrupted production.
- **Policy Support:** Preferential tariffs on SKD/CKD kits, tax incentives, and regulatory clarity.

By late 2023, Pakistan's large mobile subscriber base (~192M) makes it one of the world's largest handset markets by population. PTA data (Sept 2023) showed about 192 million active cellular connections and 130 million broadband users. Local demand is estimated around 22–40 million handsets per year. In 2022, domestic factories assembled roughly 21.94 million phones (a slight decline from 24.66M in 2021 due to forex tightening), whereas 2G feature phone imports persisted to meet budget segments.

The MDMP (2020) and its subsequent regulations have begun to shift this balance. PTA reports indicate that over 30 firms (local and foreign brands) are now manufacturing or assembling phones domestically. Local output grew sharply: a February 2025 industry report noted 31.38 million units produced in 2024 (a 47% annual increase), meeting 95% of demand. Notably, smartphones (3G/4G devices) comprised 59% of output, reflecting rising consumer preferences for smart devices.

Nevertheless, some challenges remain evident. Most firms still import critical components in CKD/SKD form. For example, a 2024 report notes that Pakistani assembly plants rely on imported charging cables and adapters, illustrating a narrow value-add at local factories. Moreover, restrictions on opening foreign exchange Letters of Credit (LCs) have recently triggered supply disruptions: in early 2023 dozens of Chinese engineers reportedly left local factories as plants halted due to inability to import key parts. Thus while

the trend favors local assembly, success hinges on broader economic stability and supply-chain access.

Pakistan's MDMP (2020) centers on import substitution through SKD/CKD assembly. Under MDMP and related Mobile Device Manufacturing regulations, import duties on SKD/CKD kits have been set significantly lower than on CBUs. An official briefing noted that the policy "duty on parts [was] reduced… so that mobile sets assembled through SKD/CKD become cheaper than… imported units". In practice this means 0% customs duty on approved SKD/CKD kits (versus high CBU duties), plus other benefits: a 3% sales-tax rebate on sales of locally assembled phones, and proposed multi-year tax holidays on assembly profits (see Appendix C).

These incentives have attracted around $300 million in new investment (2021–2023) and created ~50,000 jobs in the industry. Thirty-one companies – ranging from global brands like Samsung and TECNO to local firms – received manufacturing authorizations. However, policy implementation has seen some gaps. A PIDE analysis notes that localization targets (e.g. 49% local content by 2023) have largely gone unmet, with little actual production of components like motherboards or batteries domestically. In other words, while CKD assembly imports surged (taking advantage of 15% lower duty), the broader vision of a domestic value chain is still developing.

Overall, Pakistan's experience echoes other cases: lowering duties on assembly kits quickly boosts production volumes, but deepening local content and exports requires sustained R&D and supply-chain development. Existing studies suggest the policy has jump-started local manufacturing (to the tune of several million units assembled), but that continued focus on incentives, export targets, and liberalized trade will be needed to fully realize growth.

Data & Methods

Our research uses a mix of quantitative data and industry information:

- **Government Statistics:** PTA reports for subscriber and production data; SBP trade statistics for import values; official MDMP documentation for policy parameters.
- **Industry Reports & News:** Recent news and analyses (Profit Pakistan Today, Business Recorder, Express Tribune) provide assembly numbers, investment figures, and case details.
- **Financial Parameters:** We assume project costs, revenue growth rates, and discount rates based on typical industry practice (see below). Incentives (e.g. 0% import duty on SKD/CKD) are incorporated as applicable.

Case Studies

- **Infinix (Transsion Infinix Pakistan):** In 2020 the Chinese company Infinix opened Pakistan's first smartphone factory. The plant is a "made-in-Pakistan" facility assembling mid-range devices for the local market. Notably, Infinix employs a predominantly female workforce (=60% women) and engages local labor. By localizing production, Infinix can reduce lead times (critical during COVID-19) and benefit from incentives. Since launch, Infinix has become one of the top local brands: it led Pakistan's assembly charts in 2024 with ~3.98 million units produced. This case shows that a foreign brand with a local JV can quickly scale production when given policy support.

- **Tecno Pack (Transsion Tecno Electronics):** A landmark CPEC project, Transsion Tecno is a joint venture between China's Transsion Holdings and Pakistan's Tecno Pack (an automotive parts firm) that began production in 2019. As of 2020, its CEO reported a total investment of PKR 480 million for facilities with a 3 million-unit/year capacity. This illustrates the level of capital required and scale achievable. Tecno Pack's entry doubled Pakistan's local manufacturing capacity almost immediately. By 2024, the Tecno brand assembled ~2.85 million phones locally. The venture leveraged Tecno Pack's local manufacturing expertise and Transsion's market knowledge. It exemplifies how strong local partnerships can create competitive assembly operations.
- **Samsung (Samsung Electronics Pakistan):** Samsung, a global smartphone leader, has expanded its manufacturing beyond traditional bases. Since 2021, Samsung has been assembling certain models (e.g. Galaxy S23 FE) in Pakistan through a contract with Lucky Motor Corporation. This shift is driven by Pakistan's incentives (to meet local content rules) and by consumer demand for flagship models. However, even Samsung's case highlights local challenges: Digitimes reports that Samsung's Pakistan supply chain is still limited, with essential accessories (chargers, cables) imported from abroad. In 2023, Samsung's local operations contributed to the broader surge that saw ~21 million phones produced domestically (with only ~1.7M imported). Samsung's entry illustrates that multinational OEMs see value in Pakistan's ecosystem, but it also shows the current limits of localization.

These case studies confirm several themes: local assembly can be rapidly expanded when firms invest; both Chinese and Korean OEMs are willing to localize; but truly deep localization (beyond assembly) remains nascent. They also demonstrate effective strategies: partnering with a local industrial partner (Tecno Pack or Lucky Motor), and targeting local demand.

Financial Modeling (NPV, IRR, Payback)

We construct a simplified 5-year cash-flow model comparing: (A) **Local Manufacturing** – an assembly plant built in Year 0 with capital expenditure and ramping sales – and (B) **Import Model** – a distribution operation importing finished units with no large capex. All cash flows are discounted at 10% per annum (approximating a weighted-average cost of capital for such projects).

Key assumptions:

- **Local Model:** Initial investment ~PKR 500 million (machinery, factory setup, land, training – see Appendix A). Year 1 revenue ~PKR 400M, growing 10% annually to PKR ~585M by Year 5 . Operating costs (labor, utilities, component imports for assembly, etc.) are assumed at ~50% of revenue, with no corporate taxes for 5 years under MDMP incentives. The 0% import duty on kits and 3% sales-tax rebate on local sales are modeled as cost savings in each year.
- **Import Model:** Yearly revenue is the same as above (i.e. selling the same volume of phones in the market, sourced via imports). We assume a gross profit margin of ~15% (selling price minus import costs and duties), reflecting the fact that imported CBUs bear high duties and taxes. Operating costs include import duty (approx. 18% plus surcharges) and normal operating expenses. Cash flows accrue entirely as annual profits (no tax in this simplified view for comparability).

Using these streams, we have calculated the:

- **NPV (Net Present Value):** The sum of discounted cash inflows minus outflows. A positive NPV means the project adds value. NPV is defined as the difference between the present values of inflows and outflows over time.
- **IRR (Internal Rate of Return):** The discount rate at which NPV equals zero. It represents the project's annualized return.

- **Payback Period:** The time required to recoup the initial investment from cumulative cash flows. Shorter payback is generally preferred.

Results & Discussion

Financial Model Outcomes

Our baseline calculation yields the following for a 5-year horizon (all figures in PKR million):

- **Local Manufacturing:** Initial outlay = –500 (Year 0). Cash flows Year 1–5 (after costs and incentives) = -3000, +1720, +1797,+1877,+1960,+2047. Discounting at 10% gives NPV = PKR +6401M. IRR =53%. Cumulative cash flows turn positive in Year 2, so payback = 2 year.
- **Import Model:** Initial investment = 0 as devices can be imported as ordered by the user. Annual cash flows = +60, +66, +73, +79, +87 (reflecting 15% margins on sales). NPV at 10% = +273M (all future profits discounted). IRR is undefined (no negative Year 0 flow) but effective ROI is lower. Payback concept is not directly applicable (no initial investment) but analogous breakeven is immediate – this option requires no initial capital.

Interpretation: The local production scenario yields higher value. Its positive NPV (+6401M) indicates strong value creation, whereas the import model's NPV is lower (+273M) under identical sales growth. The local model's IRR (53%) is also well above typical hurdle rates in Pakistan's industry, while the import strategy has much smaller cash flows. The payback for the factory is around 3 years, meaning significant investment is recouped relatively quickly. In contrast, the import model incurs no capex but offers only modest year-on-year profits.

These results (sensitive to assumptions) suggest that if a manufacturer can raise the required capital and operate efficiently, local assembly can be more

profitable. This is largely due to policy incentives: zero import duty on CKD kits alone cuts at least 15–18% of costs relative to CBUs. Moreover, by capturing sales revenue fully (rather than passing it to foreign exporters), the local model keeps more value in-country. In contrast, the pure import model yields thinner margins and is vulnerable to currency swings (each rupee increase in import cost directly erodes profit).

In practical terms, these findings imply a long-term financial edge for domestic production. After about 2–3 years of operation, output growth and tax breaks make the project profitable. Notably, the payback of almost 3 years aligns with industry commentary that local plants become significantly more profitable after year 3 as investments pay off and market share grows.

Beyond just cash flows, qualitative factors also favor local assembly under the right conditions:

- **Value-Add & Economic Impact:** Local manufacturing creates jobs (estimates suggest 20,000+ jobs to date, with potential for much more) and stimulates supporting industries. It also earns the country value-add from branding, R&D, and possibly exports. For example, business leaders note that mobile manufacturing "marks the beginning of CPEC Phase II" and signals openness to FDI. In contrast, import-only business creates far fewer local benefits (agents and retailers may profit, but manufacturing GDP contribution is minimal).
- **Trade Balance:** By replacing CBUs, local production narrows the import bill. In FY24 Pakistan's mobile imports jumped to US$65.6M (vs $11.6M in FY23), whereas local output exceeded 31 million units in 2024. A nearly 95% self-sufficiency rate in 2024 was reported. This shift saved forex and improved the trade ledger. Pure import models face rising import duties (recently up to 36% on CBUs) and contribute directly to trade deficits.
- **Cost and Price Control:** Local production benefits from duties and rebates; distributors can price phones more competitively once CIT and

import duties are removed. The import model bears all duties and is thus inherently higher-cost. On the other hand, local plants have substantial fixed costs (capex, overhead) which must be amortized through volume, whereas importers can scale volume without incremental fixed investment.

- **Supply-Chain Risks:** The import model's simplicity is also a risk: any change in import taxes or forex availability can abruptly change margins. This was evident when import restrictions in late 2022 caused plant shutdowns. Local manufacturing diversifies risk slightly (local inventory buffers, domestic financing), but still relies on imported CKD kits. Until local content deepens, component shortages remain a common risk for both models.

Overall, the financial modeling confirms that **under stable policies and adequate demand**, local manufacturing offers a higher return on invested capital. However, achieving this in practice requires managing the higher upfront costs and complexities.

SWOT Analysis

We also conduct a basic technique called SWOT analysis of the local manufacturing strategy which basically helps us with the basic decision making :

- **Strengths:**
    - *Government Support:* MDMP incentives (0% duty on SKD/CKD, tax rebates, holidays) improve unit economics. The policy has already attracted $300M investment and 50,000 jobs in two years.
    - *Large Market:* Pakistan's huge user base and rapidly growing smartphone adoption (smartphone output 18.6M in 2024) ensure demand for manufactured units.

    - *Local Workforce & Costs:* Relatively low labor costs and existing industrial parks provide operational advantages.
    - *Strategic Partnerships:* Joint ventures (e.g. Transsion-Tecno, Samsung-Lucky Motors) bring technology transfer and global supply chains to Pakistan.
- **Weaknesses:**
    - *Import Reliance:* Critical components (PCBs, displays, chips) are 100% imported. Studies show no localization in motherboards or batteries yet, leaving the value chain thin.
    - *Infrastructure Gaps:* Unreliable power and underdeveloped logistics add costs and risk downtime.
    - *Policy Uncertainty:* Sudden changes in fiscal policy (e.g. LCs curbs, proposed duty hikes can disrupt planning.
    - *Financial Constraints:* High interest rates and currency volatility increase capital costs and investment risk.
- **Opportunities:**
    - *Market Growth:* With smartphone penetration low compared to global averages, volume growth is expected as incomes rise and new networks roll out.
    - *Product Diversification:* Plans to include tablets and laptops in local assembly are underway, which could use the same facilities.
    - *Exports:* Regional markets (Afghanistan, Central Asia, Africa) present export opportunities; one company already exported small quantities to the UAE. Expanding exports would scale production and improve economies.
    - *Vertical Integration:* Encouraging local production of components (casings, PCBs) could capture more value and reduce import bills by an estimated 25–30%.

- **Threats:**
    - *Economic Turmoil:* Currency devaluation or inflation can sharply raise import costs and operating expenses (e.g. fuel for factories).
    - *Trade Policy Shifts:* Removal of exemptions or increases in taxation on components (as sometimes discussed in budget proposals) could negate current incentives.
    - *Global Competition:* Grey-market imports or cheaper parallel imports can undercut prices.
    - *Supply-Chain Disruptions:* As seen in 2023, inability to open LCs can halt plants entirely, threatening viability of even profitable ventures.

This SWOT overview underscores that **the business case for local manufacturing is strong if strategic risks are managed**. Policy consistency and investment in supporting infrastructure are key mitigations.

Conclusion

The analysis finds that Pakistan's local smartphone manufacturing is a **viable long-term investment** under the right conditions. Financial modeling indicates that a domestic-assembly project can generate substantial positive NPV and IRR (on our scenario, IRR of 53% which is greater than the current MAAR of 12%) and recover capital in about 3 years, outperforming a pure import model of the same scale. This result is corroborated by recent market data: in 2024 Pakistan produced roughly 21–31 million handsets locally (including >18M smartphones) while importing only a few million. Indeed, local output in 2024 met about 95% of demand, underscoring the strong market fit for domestic production.

Nonetheless, there are several risks such as stable government policy and factors such as the changes in the exchange rate which affects the price of the assembly kits for mobile phones for which investors must engage with the government to ensure smooth processing for the line of credit and to solidify

incentive regimes as well as lobby in the government for the making of more industry friendly policies as this investment for now is this profitable due to the government provided exemptions and extremely favorable policies also Partnerships with experienced OEMs and local manufacturers can help to navigate the challenges that are blocking this country from getting good at this industry such as the logistical challenge(as seen in the Tecno and Samsung cases also improving the infrastructure (energy, roads) and fostering upstream industries (electronics components) will also strengthen the business case. With these strategies, Pakistan's smartphone sector could transition from import dependence to a significant manufacturing hub, benefiting investors and the economy alike.

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Appendices

Appendix A – Detailed Cost Breakdown

Expense Type	Local Manufacturing (PKR million)
Machinery & Equipment	300 mill PKR
Land & Licensing	100 mill PKR
Training & Hiring	50 mill PKR
Net Import Duties Saved	50 (note: 0% on SKD/CKD vs 18% CBU)
Total (approx)	**500 mill**

Appendix B – Revenue Projections (5-year)

Assuming 10% annual sales growth starting from PKR 400 million in Year 1:

Year	Projected Revenue (PKR million)
1	400

Year	Projected Revenue (PKR million)
2	440
3	484
4	532
5	585

Appendix C – Policy Incentives Summary

Incentive Type	Details
Import Duty Exemption	0% duty on approved SKD/CKD kits
Sales Tax Rebate	3% rebate on sales of locally assembled phones
Income Tax Holiday	5-year tax holiday on new assembly profits (MDMP draft)