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INDUSTRIAL CONCENTRATION, URBAN PROBLEMS, AND HR: STRATEGIES FOR MANAGING PEOPLE IN PUNE'S CHALLENGING ENVIRONMENTS

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ABSTRACT

Pune is well known as the “Oxford of the East,” has rapidly evolved into one of India’s both industrial as well as educational hubs. The city dominates in the hubs of kharadi, Chakan, Hinjewadi etc. of automotive, manufacturing, information technology, automobile and service industries which has fueled urban expansion, attracting a large workforce from within Maharashtra and across India. However, this industrial concentration has also created significant urban challenges — traffic congestion, housing shortages, environmental stress, and socio-economic disparity.

These city challenges have direct impact on workforce management. Employee retention, productivity, and satisfaction are impacted as living conditions worsen and commute times lengthen. Thus, the role of Human Resource (HR) professionals becomes crucial in designing adaptive strategies that address both workplace and urban-level issues. This research explores HR strategies that can be implemented to mitigate problems arising from industrial concentration and urban stress in Pune.

KEYWORDS: Industrial concentration, Pune, urban problems, environment, HR strategies.

INTRODUCTION

Industrial Concentration – Definition Industrial concentration denotes the extent to which a limited number of significant corporations exert a predominant influence over the aggregate production, sales, or employment within a particular industry or market. In more straightforward terms, it exemplifies the degree of influence that a select few prominent corporations wield in comparison to a multitude of smaller entities. A high level of industrial concentration signifies that merely a small number of large firms possess the majority of the market (for instance: the automobile and telecommunications sectors). Conversely, low industrial concentration indicates that production or sales are distributed across a plethora of smaller firms (for example: local bakeries and small retail establishments). **Pune: Overview of IT & Manufacturing Industries.**

Manufacturing side

- The Pimpri-Chinchwad area constitutes a significant manufacturing center within Pune. Prominent automotive manufacturers, ancillary auto suppliers, engineering enterprises, and heavy industrial sectors are predominantly situated in this locale.
- Concentration of industrial areas around Pune: Chakan, Talegaon, Ranjangaon etc., focusing on auto-engineering, electronics, FMCG, appliances, etc.
- Khed City is an example of a large industrial park (~4200 acres) for manufacturing near Pune.

IT / Services side

- Pune boasts a substantial aggregation of IT, ITES, and technology enterprises, particularly within specific regions such as Hinjawadi (Rajiv Gandhi Infotech Park), Kharadi MIDC, Magarpatta (Cybercity), Baner, among others.
- The Rajiv Gandhi Infotech Park is large (~2800 acres) and hosts ~800 IT companies.

Industrial Concentration in Pune: Comparing IT vs Manufacturing

Using the above, we can draw comparisons and infer how “concentrated” each sector is, and where clustering is strongest.

Aspect	Manufacturing	IT / Tech / ITES
Grouping / Spatial Concentration	Manufacturing activities are predominantly concentrated in areas such as Pimpri-Chinchwad, Chakan, Ranjangaon, Talawade, and Hadapsar, among others. Numerous industrial parks and MIDC zones are present.	The IT sector is predominantly concentrated in Hinjawadi, Kharadi, Magarpatta, and Baner. Additionally, there are significant IT parks and Special Economic Zones (SEZs) in these areas.
Dominant Firms vs Many Small Firms	The manufacturing sector comprises numerous large OEMs, such as automobile manufacturers, major heavy engineering companies, and export units, alongside a variety of small and medium-sized auto-ancillary businesses. The larger firms operate on a significant	In the IT sector, alongside numerous startups, there are significant domestic and multinational companies. Nevertheless, the service-oriented nature of the industry also accommodates many smaller firms. However, the larger technology hubs



Aspect	Manufacturing	IT / Tech / ITES
	scale, with many smaller entities supplying them. This suggests a moderate to high level of concentration within the OEM segments, while the ancillary segments exhibit a lower concentration.	tend to draw in several major corporations, resulting in a concentration of infrastructure, talent pools, connectivity, and more.
Infrastructure & Policy / Facilitation	Robust infrastructure in MIDC zones supports manufacturing, along with policy incentives and industrial parks. There are shared facilities and cluster development initiatives. The government has also sanctioned numerous clusters in the Pune area for manufacturing and small industries.	There is a significant emphasis on IT parks and Special Economic Zones (SEZs), as well as co-working spaces, with government backing through tax incentives and infrastructure development for the IT sector. Hinjawadi and Kharadi are adequately supported.

The broadening of urban territories is a predominant occurrence in metropolitan cities in India. Pune has also witnessed accelerated development in its outskirts. This growth is primarily due to the establishment of Information Technology (IT) Parks. Various IT Parks have been developed in different areas of Pune, including Hinjewadi, Kharadi, Talawade, and others like the IT parks in the Magarpatta region. This area has been navigating emerging challenges in land use over the past few years. The changes in land use that have taken place in the vicinity of the Hinjewadi and Talawade IT parks over the last two decades have been studied by analyzing LANDSAT images from various time periods. The satellite images from 1992, 2001, 2011, and 2015 were examined to identify the temporal changes in land use and land cover. The tertiary sector has experienced rapid growth, particularly in the last decade & till 2025 near the IT Park. The land use of the study area has been analyzed using reference data applied to the satellite images for these years. By employing digital image processing techniques, the satellite images were classified, resulting in land use and land cover maps that include agricultural land, water bodies, barren land, fallow land, and settlements. A significant change in the area under cultivation has been observed due to the establishment of the IT Park. Additionally, there has been a remarkable change in the percentage of area designated for settlements and barren land. These changes are expected to impact on the socioeconomic landscape of the region. **Khare, U., & Thakur, P. (2016).**



The IT sector received a warm reception in the city as per the IT policy set forth by the Maharashtra State government. Pune is widely recognized as the second largest "IT hub of India" and serves as the leading automobile and manufacturing center in the nation. In Hinjewadi, various authorities are present, including the Hinjewadi gram panchayat, Hinjewadi MIDC, Software Technology Parks of India, Hinjewadi Industries Association, IT professionals, and local residents. Each of these entities contributes significantly to the development of Hinjewadi. The IT sector received a warm welcome in the city as per the IT policy set forth by the Maharashtra State government. Pune is widely recognized as the second largest "IT hub of India" and serves as the leading automobile and manufacturing center in the nation. In Hinjewadi, various authorities are present, including the Hinjewadi gram panchayat, Hinjewadi MIDC, Software Technology Parks of India, Hinjewadi Industries Association, IT professionals, and local residents. Each of these entities contributes significantly to the development of Hinjewadi. Londhe, M. (2022).

The Auto Cluster Development and Research Institute situated in Chinchwad is a notable representation of the automotive sector's industrial concentration in Pune and Pimpri-Chinchwad, where more than 2,000 MSMEs benefit from shared infrastructure and support facilities. Created in partnership with the Pimpri Chinchwad Municipal Corporation and the Maratha Chamber of Commerce, the cluster has emerged as a hub for product development, quality enhancement, and global competitiveness. Considering the growing trend of electric vehicles, the Auto Cluster has recently expanded its facilities to include EV testing laboratories, battery pack testing, 3D printing, and rubber and polymer labs, emphasizing the increasing demand for advanced infrastructure in concentrated industrial areas.

India has started to attract considerable attention as a manufacturing hub, especially due to the expansion of the Global Automotive industry. As a result, India's automotive sector holds the promise of becoming one of the largest globally. At this moment, India is the fourth largest market for commercial vehicles, the second largest for two-wheelers, and the eleventh largest for passenger cars. The Indian Auto Component Industry ranks among the fastest-growing sectors, reaping the benefits of the automobile industry's success. With rising demand and technological advancements, the auto component sector in India has positioned itself as a vital market both in Asia and on a global scale. The nation now provides auto components to numerous international automobile manufacturers, including General Motors, Toyota, Ford, and Volkswagen, among others. Currently, India stands as the third largest exporter of two-wheelers in the world, trailing only China and Japan. Before undertaking the extensive study, a literature review was conducted. (Paliwal, M., & RASKAR, A. (2019).

Urban Problems in Pune

1. Rapid Urban Growth & Infrastructure Strain.

In recent decades, Pune has seen significant growth in its urban area, fueled by industrial expansion, IT and manufacturing centers, and an expansion of migrant arrivals.

- This development often occurs in a haphazard manner — fringe settlements are constructed before sufficient infrastructure (such as roads, water supply, and sewage systems) were established.
- As a result, there is a skewed delivery of basic utilities: some neighborhoods may enjoy relatively better services, while others fall behind, leading to Spatially driven social inequalities.
- Regarding HR and people management: For companies operating in Pune, this situation implies that employees might endure lengthy commutes, face unreliable infrastructure (including power and water outages), and experience varying living conditions — all of which can impact productivity, morale, and employee retention.



Source : Google Images

2. Transportation, Traffic Congestion & Mobility Issues.

- The city is facing severe accessibility challenges and traffic congestion. Transport Corridors are overstressed, vehicle registrations have increased, and flyovers and overpasses haven't addressed the fundamental issue of demand outpacing supply.
- Long commutes are caused by poorly planned transportation infrastructure; for instance, a 20-kilometer trip may take significantly longer during rush hour. Workforce management is directly impacted by this (lateness, weariness, turnover).
- The lack of effective public transportation in many places leads to greater reliance on private automobiles or two-wheelers, which raises employee costs and may have an impact on HR policies (such as those pertaining to flexible scheduling, remote work, and transportation allowances).

- As industries concentrate in the Pune region, workers may be commuting from more distant suburbs, creating scheduling and staffing issues. This is another way that the mobility issue is related to industrial concentration.



Source : Google Images

3. Environmental Stress: Pollution, Drainage & Climate Effects.

- Pollution of the air, water, and noise are serious risks. For instance, construction and traffic contribute to dust and poor air quality, and untreated sewage and industrial effluents significantly contaminate aquatic bodies.
- Even mild rainfall produces flooding and waterlogging due to clogged storm-water drains, encroachment of natural drainage, and poor maintenance, making the city's drainage and rainwater management system insufficient for the current metropolitan scale. Large built-up regions, highrise construction, and impermeable surfaces all contribute to the "urban heat island" effect, which raises ambient temperatures and increases peak electricity demand as well as worker thermal stress.
- In terms of HR/practice, environmental stress has an impact on worker health, absenteeism, and comfort at work. It may also call for corporate policy on health examinations, indoor air filtration, and flexible scheduling during hot or rainy seasons.



Source : Google Images

4. Housing, Slums & Socio-Economic Disparities

An extensive unplanned settlement:

results from rapid movement brought on by industrial concentration.

According to estimates, a sizable section of Pune's population resides in slums with limited access to necessities like clean water, sanitary facilities, and safe housing.

- Scarcity of economically accessible housing:

Lack of affordable housing: Many workers, particularly in the industry and IT service sectors, struggle to find accommodation close to their places of employment as land prices and rents rise and real estate development concentrates on premium segments, resulting in long commutes or precarious living conditions.

- Because of social injustices and spatial segregation, workers from underprivileged origins may reside in less connected locations and experience mobility and civic disadvantages in comparison to others. These factors have an impact on HR in terms of fairness, inclusion, training requirements, and support systems.
- Thus, housing allowances, transportation assistance, outreach to workers in informal housing, and initiatives for their social integration and well-being must all be considered in HR plans.



Source : Google Images

5. Governance, Planning & Service Delivery Gaps.

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Source : Google Images

6. Health & Safety Risks for Urban Population.

- Pune's urban living poses health hazards like as vector-borne diseases in regions with poor drainage, respiratory conditions caused by pollution, and lifestyle issues resulting from stressful situations and long commutes.
- From an HR standpoint, health hazards lead to increased absenteeism, medical expenses, the need for wellness programs for employees, onsite health screening, and exposure-reducing shift and transit regulations.
- Infrastructure-safety risks include things like potholes and poorly maintained roads, which cause stress and accidents. Safety training also becomes essential, especially in industrial regions found in expanding suburbs.



Source : Google Images



A view of the Moshi landfill along the Pune-Nashik highway. Express Photo by Arul Horizon

Source : Google Images

7. Water & Resource Stress

The fast pace of construction & population growth puts immense pressure on water & power infrastructure.

8. Criminal Cases & road accidents.

In addition to rapid industrial concentration, Pune is also witnessing a steady rise in criminal incidents and road-accident cases, further intensifying the complexity of urban management and creating new challenges for HR professionals working in such environments.

“Along with industrial expansion, Pune has witnessed a sharp increase in the number of vehicles on its roads—ranging from private cars to heavy commercial transport. This rise in traffic density has contributed to frequent road accident incidents. A recent example is the major accident on the Navale Bridge, where more than twenty vehicles were damaged, resulting in significant loss of life and property. Such events underscore the growing urban risks faced by residents and organizations, further complicating mobility, employee safety, and overall HR management in the city.” (Raghav, P. R., Prasad, N. B., & Dholakia, M. (2015)).

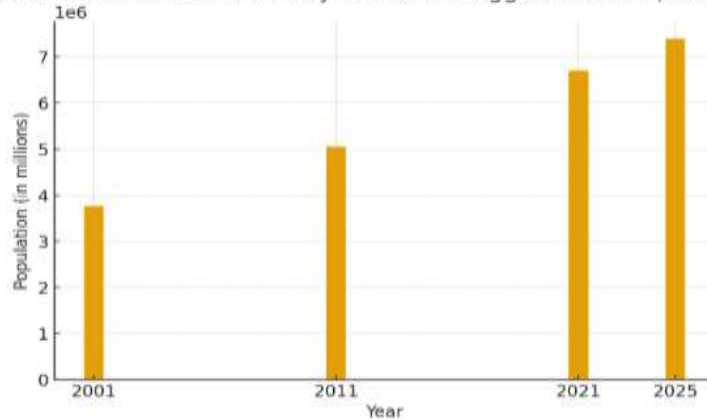
Relation between Industrial Concentration, Urban Problems, and HR

Pune is undergoing swift urban expansion fueled by continuous migration and a significant concentration of industries, collectively creating a vibrant yet demanding urban job market. The city grapples with urgent urban problems such as traffic jams, the high cost of housing, and the proliferation of informal settlements, while simultaneously seeing increased job prospects in

information technology, manufacturing, and service industries. These issues are further complicated by shifts in land use due to infrastructure projects like road building and public utility installations, which have impacted local livelihoods and property values. Despite strong job creation and industrial concentration, the advantages of this growth are not shared equally, with deficiencies persisting in urban planning, housing, and social services. These interconnected factors establish an environment where worker productivity and welfare are affected by both economic prospects and urban pressures. Examining Pune’s labor market challenges from this perspective underscores the crucial importance of strategic human resource management (SHRM) in harmonizing HR practices with the city's realities to maintain growth, enhance quality of life, and promote equitable development.

Kılıç (2024) looked at research connecting how companies manage people to making cities better places to live. They found that using environmentally friendly HR practices, planning the workforce with online tools, hiring diverse people, and having HR help public and private groups work together are common ways to make cities stronger and nicer to live in. The review also pointed out that there isn't much research showing how HR actions actually affect cities, like how they influence travel, housing costs, or job numbers. This means more research is needed in places like Pune to see what works in real cities.

Population Growth of Pune City and Urban Agglomeration (2001-2025)



Source : Google Images

The city’s ongoing development continues to attract significant in-migration, particularly among working-age youth. However, rapid urban expansion has outstripped infrastructure growth, placing considerable strain on roads, housing, public transport, and waste management systems. Rising vehicular density has led to heightened congestion, noise, and air pollution. Moreover, the peripheral regions are expanding faster than the city core, contributing to urban sprawl and lengthier commutes



for employees. With the younger generation, including women, achieving higher education, securing better-paying jobs, and gaining mobility through driving four-wheelers, the pressure on urban infrastructure has intensified further, resulting in increased traffic congestion and environmental challenges.

PROBLEM STATEMENT

Despite Pune's strong industrial base and skilled workforce, urban issues such as congestion, inadequate infrastructure, pollution, and housing shortages negatively impact employees' work-life balance and organizational productivity.

There is limited research linking these **urban challenges** with **human resource management strategies**. The study aims to investigate:

How can HR strategies be effectively applied to manage human capital amidst Pune's industrial and urban pressures?

OBJECTIVES

1. To study the impact of industrial concentration on workforce and urban conditions in Pune.
2. To identify key urban problems affecting employees in major industrial clusters.
3. To analyse HR strategies that can be implemented to improve employee well-being and organizational effectiveness.
4. To recommend sustainable HR practices that align with urban development and employee engagement.

SCOPE

1. The study focuses on Pune's key industrial zones — such as Chakan, Talegaon, Pimpri-Chinchwad, and Hinjawadi IT Park.
2. It encompasses both **manufacturing and service sectors**, covering employees across managerial and non-managerial roles.
3. The HR strategies considered include flexible work models, green HRM, employee transportation, health and safety initiatives, and urban sustainability collaborations.

RESEARCH METHODOLOGY

Research Design: Descriptive and exploratory.

Data Sources:

- **Primary data:** Surveys and interviews with HR professionals and employees from Pune's industrial zones.



- **Secondary data:** Published reports, academic journals, and case studies on HRM in urban environments.

LIMITATIONS

The study is limited to Pune city and surrounding industrial regions; findings may not generalize to other Indian cities.

CONCLUSION

HR and Sustainability Implications for the Future

Emerging Challenge	Recommended HR Strategy
Longer commuting times	Introduce hybrid work, staggered shifts, employer transport solutions
Rising cost of living	Compensation restructuring, housing support programs
Talent competition	Build career development, retention, and employer branding strategies
Mental & physical health concerns	Wellness initiatives, counselling, work-life balance programs
Environmental stress	Implement Green HRM (eco-friendly workplace practices)
Skills gap	Partner with local institutions for re-skilling and vocational training

- **Population growth** in Pune reflects sustained industrial success but also signals severe urban strain.
- If proactive steps are not taken, the **city’s live ability index could decline**, impacting workforce morale and corporate efficiency.
- To ensure balanced development, **HR departments must evolve** beyond traditional administrative roles — taking on sustainability, urban engagement, and employee well-being as strategic priorities.

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