Economic Analysis of Administrative Support: Comparing Fully Burdened Human Labor Costs with AI Alternatives

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Abstract

This paper presents a detailed economic analysis of the fully burdened cost of administrative assistance in Washington State as of 2025. Using a case study approach, we analyze both the direct and indirect costs associated with human administrative support, including base salary, employer-paid taxes and benefits, workspace, equipment, and other overhead expenses. We then examine the relationship between nominal working hours and actual productive time. The study incorporates a novel efficiency analysis by calculating the time and cost required for a human administrative assistant to produce the very economic analysis presented in this paper. Through this reflexive approach, we demonstrate how the use of AI assistance can substantially reduce both the time and cost of analytical labor tasks while maintaining high-quality outputs.

1 Introduction

The economics of administrative support represents a significant operational consideration for businesses of all sizes. While the base salary of administrative staff is readily apparent, the fully burdened cost—which includes all direct and indirect expenses necessary to maintain an employee—provides a more accurate picture of the true cost to an organization (Bureau of Labor Statistics, 2024).

As artificial intelligence (AI) systems become increasingly capable of performing traditional administrative tasks, businesses face important decisions about optimal resource allocation. This paper presents a detailed analysis of the fully burdened cost of administrative assistance in Washington State as of 2025, and examines the comparative efficiency of human versus AI labor for analytical tasks.

The structure of this paper is as follows: Section 2 outlines our methodology for calculating the fully burdened cost of administrative assistance. Section 3 presents our findings on wage data, employer burden, additional costs, and productive hours. Section 4 provides a meta-analysis of the time and cost required for a human to produce this same economic analysis. Section 5 discusses the implications of our findings for business operations and resource allocation. Finally, Section 6 summarizes our conclusions and suggests directions for future research.

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2 Methodology

Our analysis adopts a comprehensive approach to calculating the fully burdened cost of administrative assistance in Washington State. We utilize current market data for base wages and standard accounting methodologies for determining additional employer costs.

The fully burdened cost calculation incorporates the following components:

1. Base salary: Current market hourly wage multiplied by standard full-time hours
2. Employer-paid burden: Payroll taxes, health insurance, retirement benefits, and other mandatory and customary benefits
3. Physical workspace: Office space allocation based on current commercial real estate costs in Washington State
4. Equipment and supplies: Computers, office equipment, and consumable supplies
5. Additional overhead: Insurance, liability coverage, and other administrative costs

For the productive hours analysis, we consider standard working hours minus paid time off (vacation, sick leave, holidays) and account for typical non-productive time during the workday (meetings, breaks, administrative tasks).

The meta-analysis component examines the time required for a human administrative assistant to research and compile this same economic analysis, breaking the task into discrete steps and estimating the time and cost for each.

3 Results and Findings

3.1 Wage Data and Annual Salary

Based on current labor market data from employment platforms and government sources, the average hourly wage for an administrative assistant in Washington State as of April 2025 is $23.45 per hour. For a full-time position (40 hours per week, 52 weeks per year), this translates to an annual base salary of $48,776.

3.2 Employer-Paid Burden

According to Bureau of Labor Statistics data, the employer-paid burden for office workers in Washington State averages 38% of base wages. This includes:

- Social Security and Medicare taxes
- Federal and state unemployment insurance
- Workers' compensation insurance
- Health, dental, and vision insurance
- Life and disability insurance
- Retirement benefits

- Paid time off accrual

For our administrative assistant example, this burden amounts to approximately $18,535 annually, bringing the subtotal (salary plus benefits) to $67,311 per year.

3.3 Additional Employer Costs

Beyond salary and benefits, employers incur several additional costs to maintain an administrative position:

Cost Category	**Details**	**Annual Cost**
Office Space	125 sq ft at $22/sq ft/yr (Seattle metro avg)	$2,750
Computer & Equipment	$800 amortized over 3 years	$270
Supplies & Phone	Desk equipment, consumables, communications	$300
Additional Insurance	Life, disability, liability	$200
Total Additional Costs		$3,520

Table 1: Breakdown of Additional Employer Costs

3.4 Total Fully Burdened Cost

Combining the base salary, employer-paid burden, and additional costs yields a total fully burdened cost of $70,831 per year. Based on a standard full-time schedule of 2,080 hours per year, this equates to $34.05 per hour.

3.5 Productive Hours Analysis

The standard full-time schedule includes 2,080 hours annually (40 hours/week × 52 weeks). However, this does not account for time that is not productively applied to work tasks:

Time Category	**Details**	**Hours per Year**
Standard Work Time	40 hrs/week × 52 weeks	2,080
Less Paid Time Off:		
Vacation	12 days × 8 hours	96
Sick Leave	6 days × 8 hours	48
Holidays	10 days × 8 hours	80
Total PTO		224
Available Working Time		1,856
Less Non-productive Time:		
Meetings, breaks, administrative tasks		256
True Productive Time		1,600

Table 2: Breakdown of Annual Working Hours

Based on this analysis, the true productive time is approximately 1,600 hours per year, which means the fully burdened cost per productive hour rises to $44.27.

4 Meta-Analysis: The Cost of Economic Analysis

A unique aspect of this study is its reflexive nature: we calculated the time and cost that would be required for a human administrative assistant to produce this same economic analysis.

4.1 Task Breakdown and Time Estimates

The production of a comprehensive economic analysis involves multiple discrete tasks, each requiring different skills and time investments:

Task	**Estimated Time (minutes)**
Clarify Assignment and Define Deliverables	10
Research Current Wage Data	25
Research Employer Burden (Taxes, Benefits, PTO)	20
Research Local Office/Equipment/Other Costs	15
Estimate PTO and Productive Work Hours	13
Compile and Calculate All Numbers	13
Draft, Format, and Edit Report	18
Internal Review and Check for Gaps	8
Total	**122 (2.0 hours)**

Table 3: Time Estimates for Economic Analysis Tasks

4.2 Total Cost of Analysis

Using our calculated fully burdened hourly cost of $34.05, the total cost to the organization for a human administrative assistant to produce this analysis would be:

$$2.0 \text{ hours} \times \$34.05/\text{hour} = \$68.10$$

This represents a significant investment for what is essentially a preliminary economic analysis. In contrast, an AI system can produce comparable analysis in minutes, with the human supervisor requiring only minimal time to review and verify the results.

5 Discussion

5.1 Implications of Fully Burdened Cost Calculations

Our analysis reveals that the fully burdened cost of an administrative assistant in Washington State is approximately 45% higher than the base salary ($70,831 vs. $48,776). This underscores the importance of considering all costs when making hiring decisions or performing cost-benefit analyses.

Furthermore, when accounting for the limited productive hours actually available (1,600 vs. 2,080), the effective hourly cost increases by an additional 30%. This suggests that efficiency improvements and automation of routine tasks could yield significant cost savings.

5.2 Comparative Economics: Human vs. AI Administrative Support

The meta-analysis reveals another important dimension: the cost of having administrative staff perform economic analyses. At $68.10 for a single analysis, organizations face a non-trivial expense for each similar analytical task. This becomes particularly significant when considering that:

1. Administrative professionals may not have specialized training in economic analysis, potentially leading to less accurate results
2. The time spent on economic analysis diverts resources from other essential administrative tasks
3. AI systems can perform such analyses with greater speed and consistency

The case study demonstrates how AI assistance can reduce both the time and cost of analytical labor tasks. While a human administrative assistant would require approximately two hours to produce a similar analysis, an AI system can generate comparable results in minutes, with minimal human oversight required only for verification and strategic direction.

5.3 Optimal Resource Allocation

These findings suggest that organizations may benefit from a strategic approach to administrative support that:

1. Leverages AI systems for research, data analysis, and report generation
2. Focuses human administrative talent on tasks requiring interpersonal skills, emotional intelligence, and contextual judgment
3. Reduces overall administrative headcount while potentially increasing compensation for remaining staff who manage AI systems and handle complex tasks

Such an approach could simultaneously reduce costs, increase productivity, and enhance job satisfaction by allowing human workers to focus on more engaging and less routine aspects of administrative work.

6 Conclusion

This paper has presented a comprehensive analysis of the fully burdened cost of administrative assistance in Washington State as of 2025. Our findings demonstrate that the true cost of administrative support extends far beyond base salary, encompassing benefits, physical infrastructure, equipment, and productive time limitations.

The meta-analysis component revealed a significant insight: the economic analysis itself represents a substantial cost when performed by human administrative staff. This suggests that AI systems capable of performing such analyses can provide not only direct labor cost savings but also meta-level efficiency improvements by reducing the cost of economic analysis and decision support.

Future research could expand on these findings by examining a wider range of administrative tasks, comparing the quality and consistency of outputs between human and AI workers, and exploring hybrid models that optimize the collaboration between human and artificial intelligence in administrative contexts.

As AI capabilities continue to advance, organizations will benefit from regularly reassessing the allocation of tasks between human and artificial intelligence resources, with the goal of maximizing both economic efficiency and value creation.

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