UBC SAUDER SCHOOL OF BUSINESS

ROBERT H. LEE GRADUATE SCHOOL

Process Fundamentals BASC_V 500 Vanguard Retail

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Addressing Vanguard's Operational Challenges and Recommendations for Karin Risi

- **Background:**

  The Retail Investor Group (RIG) at Vanguard is grappling with challenges arising from rapid growth, operational variability, and service inefficiencies. These challenges are exacerbated by seasonal peaks in workload, diverse transaction complexity, and the varying productivity levels among employees. Resolving these issues requires a balanced approach that improves service delivery, optimizes workforce utilization, and ensures scalability.

- **Challenges Identified:**

  i. **Growing Transaction Volumes and Complexity:** The rapid growth of Vanguard's Retail Investor Group (RIG) has led to an influx of transactions with varying complexities, challenging the existing operational framework. Seasonal peaks exacerbate workload pressures, affecting service timeliness and accuracy.
  ii. **Generalist Model Limitations:** While flexible, the generalist model struggles with handling variability in workload and task complexity. Employees frequently switch contexts, impacting efficiency and increasing processing time for specialized tasks
  iii. **Specialist Model Constraints:** Although better suited for handling complexity, the specialist model necessitates a higher workforce, potentially leading to monotony in tasks and higher recruitment/training costs.
  iv. **Utilization Inequities:** Categories A and H exhibit consistently high utilization rates, with peak demand periods further stretching these teams. Underutilized groups represent opportunities for reallocation.
  v. **Seasonal and Task-Based Variability:** The variability in weekly workload across transaction categories and unpredictable seasonal spikes exacerbate inefficiencies, placing strain on resources and risking service delays.

- **Recommendations:**

  Based on the analysis, the following strategies are proposed to address the operational challenges:

  i. **Adopt a Hybrid Staffing Model:**
     A. Assign **specialists** to high-complexity tasks in categories like A and H, where expertise is essential for accuracy and efficiency.
     B. Deploy **generalists** for low-complexity transactions and to provide flexible support during peak periods, ensuring continuity of service across all categories.
  ii. **Dynamic Workforce Management:**
     A. During high-demand seasons (e.g., tax-filing periods), temporarily reassign employees from underutilised categories to support overburdened teams. This will alleviate pressure without permanent workforce expansion.
     B. Employ contract-based part-time workers for short-term peak workloads across all categories to avoid long-term commitments.

iii. **Efficiency Improvements:**
   A. **Streamline Transaction Inputs:** Simplify the transaction request system by reducing unnecessary input fields and addressing "Not in Good Order" (NIGO) transactions early in the process. This reduces rework and processing delays.
   B. **Enhance KPIs:** Incorporate new KPIs that measure individual, and team performance based on the quantity and quality of transactions. Align these metrics with incentives to boost employee morale and accountability.

iv. **Technology Integration:** Invest in tools and workflows that facilitate predictive workload analysis and proactive resource allocation. This ensures readiness for peak periods while improving operational transparency.

- **Implementation Benefits:**
  i. **Enhanced Workforce Efficiency:**
     - The hybrid model capitalizes on the strengths of both staffing approaches, ensuring a scalable, efficient, and adaptable workforce.
     - Redistributing workload across generalist and specialist teams alleviates pressure during peak seasons and balances utilization rates.

  ii. **Streamlined Processes:**
     - Simplified input systems and NIGO resolution enhance operational efficiency, reducing delays and client frustration.
     - Improved KPIs ensure clear accountability and continuous performance improvement.

  iii. **Scalability and Cost Control:**
     - Temporary staffing solutions address seasonal peaks without overextending permanent workforce commitments.
     - Investments in predictive analytics and automation provide long-term operational transparency and scalability.

  iv. **Employee and Client Satisfaction:**
     - Specialised roles with clear ownership improve task efficiency and foster greater accountability.
     - A focus on employee morale through performance-based incentives and career development opportunities ensures long-term engagement and reduces turnover.

These recommendations equip Vanguard to sustainably navigate its current operational challenges. By leveraging a hybrid staffing model, implementing dynamic workforce management strategies, and enhancing process efficiency, Karin Risi can lead the RIG team to improve service quality, manage seasonal peaks, and foster a motivated, adaptable workforce. This approach positions Vanguard for continued growth and long-term success in an increasingly competitive market.

Appendix

Q1. How is (and how should) Vanguard dealing with variability in their operations?

Current Sources of Variability:

- **Transaction Volume Variations:**
  i. Vanguard experiences fluctuations in transaction volumes weekly and seasonality. Peaks in the workload can be overwhelming for the team at times, while the lows can leave them underutilized. E.g. Sudden surge in transactions during the tax season or market volatility.
- **Transaction Complexity:**
  i. Transactions can vary in complexity, from routine tasks like fund purchases to intricate processes like "Change of Ownership – Divorce."
  ii. Complex transactions clearly require more time and skilled resources, causing bottlenecks during peak times.
- **Customer Behaviour Patterns:**
  i. Client behaviour, such as increased investment or withdrawals during market events, creates unpredictability in transaction volumes.
- **Generalist Model Limitation:**
  i. The generalist model used by Vanguard means that crew members handle a variety of tasks. This reduces specialization and efficiency, particularly for complex or infrequent transactions.

Possible Recommendations:

- **Segment Workloads:**
  i. Switch from generalist model to a specialized model by dividing work into categories. This would improve overall efficiency as the employees would focus on fewer transaction types and develop expertise.
- **Optimize Staffing:**
  i. Could probably use historical workload data to allocate the right number of employees to the different transaction categories, ensuring better balance between capacity and demand.
  ii. Could also try out flexible staffing solutions. For example, contracting people for a short term during peak seasons.
- **Forecasting and Planning:**
  i. Can leverage complex forecasting techniques to predict transaction volumes and accordingly allocate resources.
- **Cross Training Crew Members:**
  i. Cross train employees to handle multiple transaction types within their category. This provides flexibility during unexpected surges in some categories.
- **Automate Routine Tasks:**
  i. Invest in automation for repetitive, low-value transactions like fund purchases. This frees up resources for more complex, high-value tasks.
- **Make use of KPIs:**
  i. Regularly track utilization, backlog, and transaction processing times to adjust staffing levels and workflows dynamically.

Q2. How many crew members would Vanguard need in a generalist model to ensure that 100% of all work could be completed in any given week of 2016, assuming 100% productivity?

- The maximum pooled weekly workload across all groups (A-H) was identified as **12,946.84 hours** (Week 14).

- Each FTE works 4.69 hours/day, 5 days per week, providing a total of 23.45 hours per week.
- Calculation: Crew Members Needed = (Max Weekly workload)/Weekly hours per FTE = 12946.84/23.45 = 552.1
- **Conclusion:** Vanguard would need **553** (rounded up since 552 crew members wouldn't be enough) crew members to ensure that 100% of the workload could be completed in any given week of 2016 under the generalist model.

Q3. If Vanguard segmented the work into the eight categories shown in Exhibits 11-13, how many crew members would they need to ensure that 100% of all work could be completed in any given week, assuming 100% productivity? Assume that crew members work only in the category to which they are assigned. What objectives would you try to achieve when designing the set of tasks that a crewmember would be assigned to?

- Each FTE works 4.69 hours/day, 5 days per week, providing a total of 23.45 hours per week.
- Calculation: Crew Members per Category = (Max Weekly Workload (Hours))/23.45 Hours/Week per FTE

Group	Max Weekly Workload	Crew Members required
Group A	3,838.40	164
Group B	762.118036	33
Group C	1827.15667	78
Group D	863.962582	37
Group E	1639.5204	70
Group F	1841.941	79
Group G	1820.41095	78
Group H	985.843921	43

- Crew members are rounded up to the nearest integer since partial crew members are not possible.
- Total Crew Members Required = 582

Objectives for Designing Tasks:

- **Skill Specialization:** Assign tasks within each category to align with specialized skills, ensuring efficiency and quality
- **Workload Balance:** Evenly distribute the workload across crew members within each category to minimize idle time and burnout.
- **Flexibility:** Build contingency plans for reassigning crew members during unexpected surges in workload.
- **Cross-Training:** Consider cross-training a subset of employees to handle multiple categories for added flexibility during peak periods.

By segmenting work into specialized categories, Vanguard can better manage workload variability and ensure the timely completion of tasks, while also enhancing employee efficiency and client satisfaction.

Q4. Consider the transaction "Change of Ownership – Divorce."

A. How many such transactions does a crew member handle per year while working under a generalist model?

- Each FTE works 4.69 hours/day, 5 days per week, providing a total of 23.45 hours per week.
- Annual productivity per FTE is: 4.69*260 = 1219.4 hours/year
- The total workload for all transaction types is **4,59,398 hours/year**, requiring **376.8 FTEs** under the generalist model: 459398/1219.4 = 376.8 FTEs
- Transaction Specific Data: Frequency is 1166 transactions/year and the average handle time is 0.25 hours per transaction.
- Total Time required for "Change of Ownership – Divorce": 291 hours per year

- Time allocated per FTE for this task: Time per FTE = Total Time for the Task/Total Number of FTEs = 291/376.8 = **0.772 hours/year per FTE**
- Transaction Handled per FTE = Time per FTE/Average Handle Time =0.772/0.25=3.088 transactions/year per FTE
- Under the **generalist model**, each crew member handles approximately **3 (3.088) transactions of "Change of Ownership – Divorce" per year.**

B. How many of this transaction type would a crew member assigned to group H handle per year while working under a specialized model?

- In the specialist model, each crew member handles transactions only within their assigned category. For Group H, the calculation for how many "Change of Ownership – Divorce" transactions each crew member handles is as follows:
  i. Total Handle Hours across Group H/year: 38210
  ii. Number of working hours available per FTE: 4.69*260 = 1219.4 hours/year
  iii. Approx number of crew members working in Group H specialist model: 38210/1219.4 = 31.33
  iv. Number of "Change of Ownership – Divorce" transactions per year: 1166
  v. Number of transactions handled by the crew: 1166/31.33 = 37.22

  Thus, in the **specialist model**: Each crew member in Group H can handle approximately **37 (37.22) transactions of "Change of Ownership – Divorce" per year.**

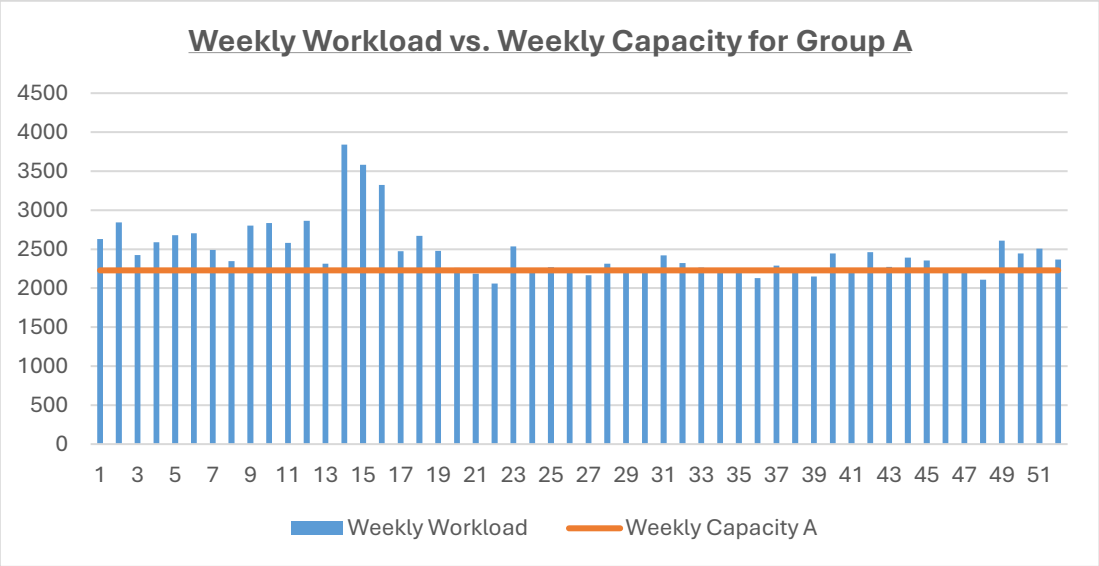
Q5. In an effort to maximize crew member utilization, Benchener and Billet decided to staff the eight specialist categories as follows:

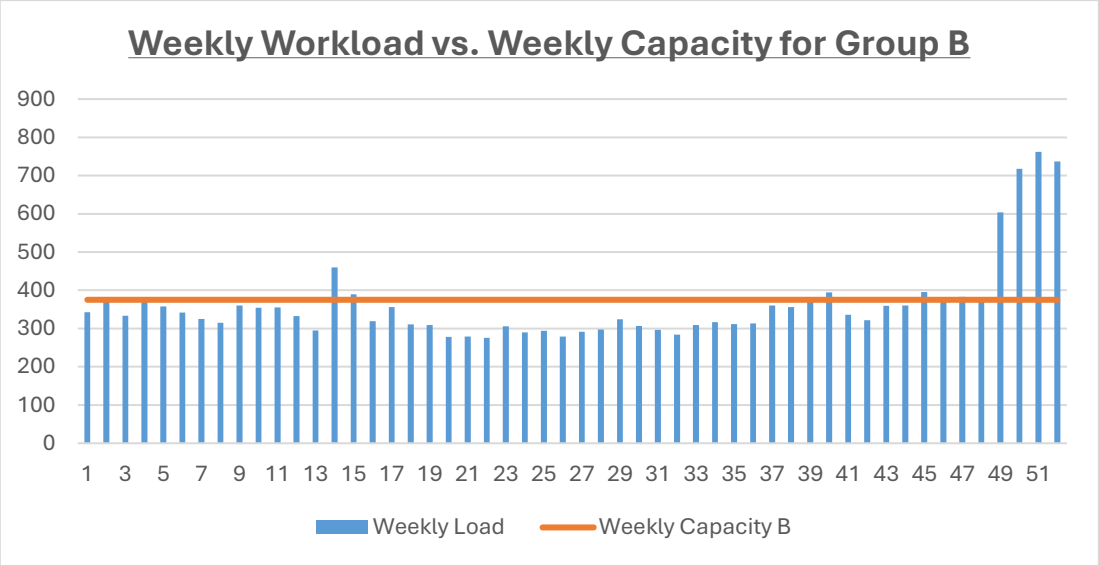
Transaction Group	A	B	C	D	E	F	G	H
Number of Crew Members	95	16	59	28	64	53	38	29

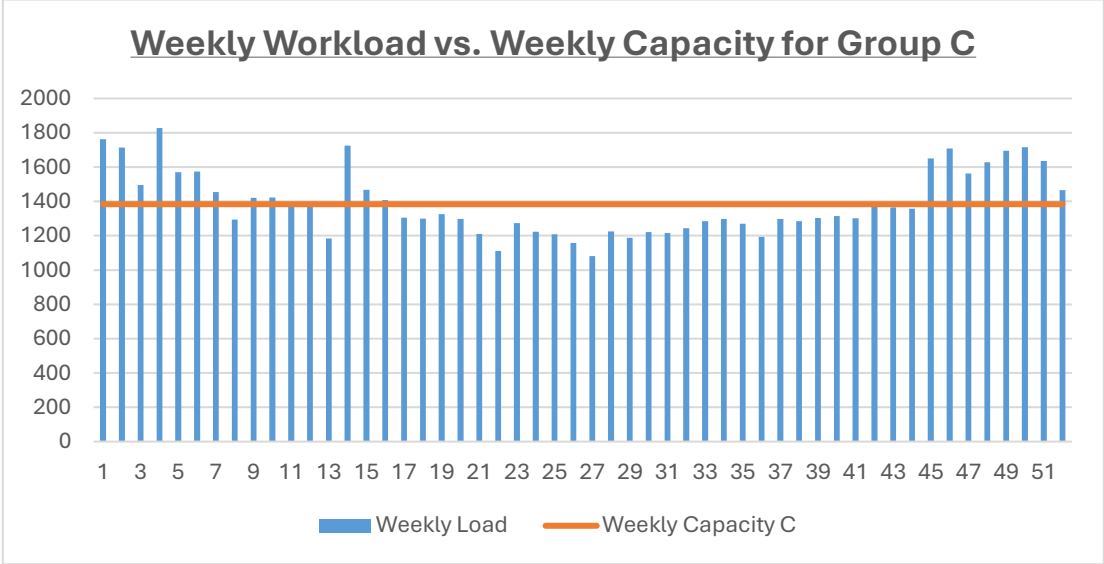
Assuming 100% productivity, what will the crew utilization look like for each category, and overall? It will be helpful to make a chart of weekly hours of work inventory for each category and compare that to the crew capacity for that category.

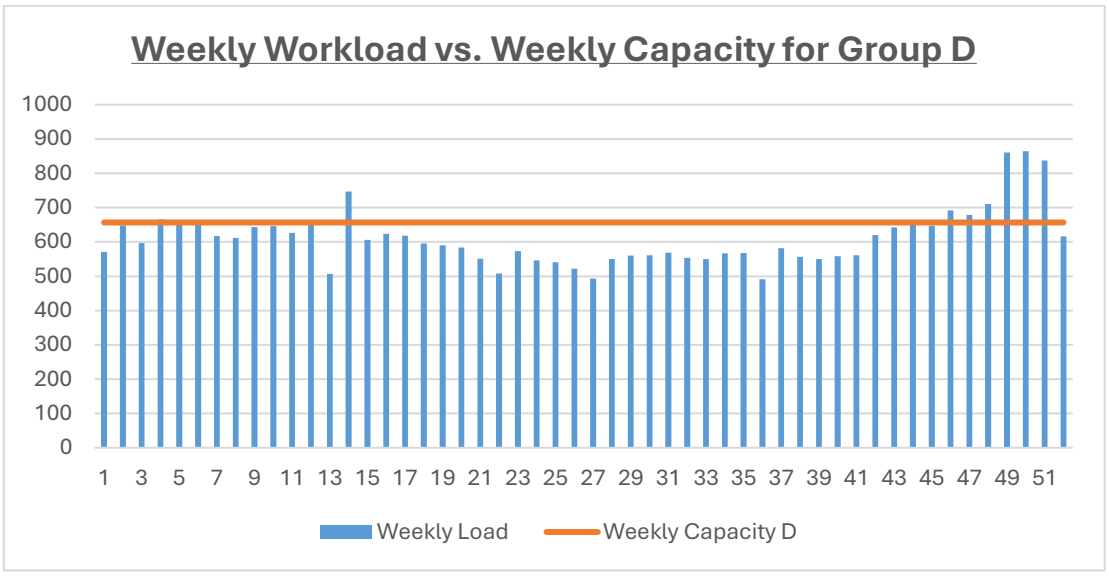
- Each FTE works 4.69 hours/day, 5 days per week, providing a total of 23.45 hours per week.
- Weekly capacity of each group is calculated by:23.45*(Number of Crew Members)

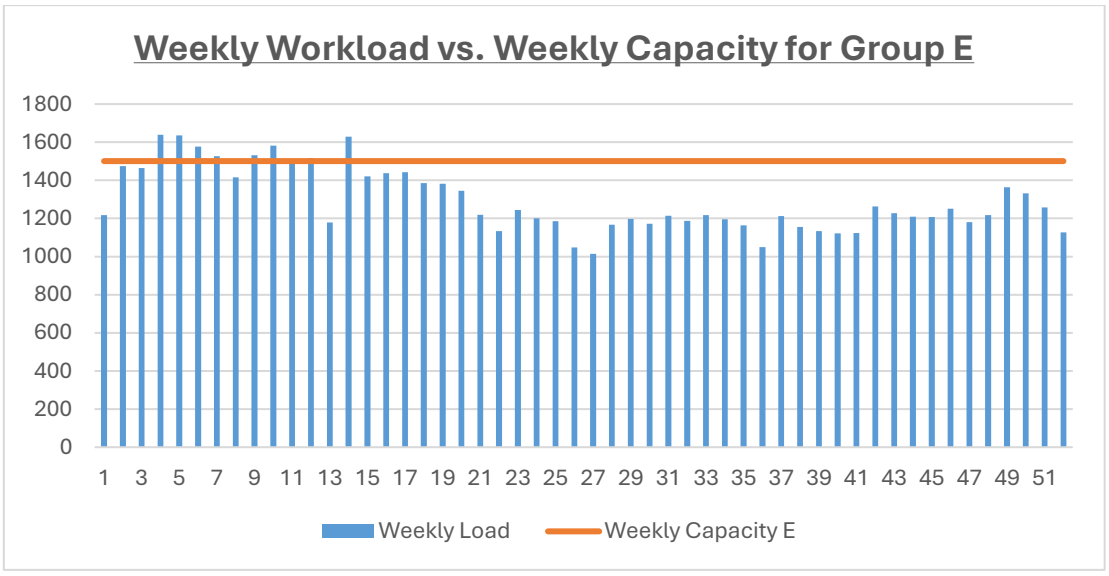
Group	Hours/week per FTE	Crew Members	Weekly Capacity	Utilization (Average/week)
A	23.45	95	2227.75	**110%**
B	23.45	16	375.2	**97%**
C	23.45	59	1383.55	**101%**
D	23.45	28	656.6	**93%**
E	23.45	64	1500.8	**86%**
F	23.45	53	1242.85	**90%**
G	23.45	38	891.1	**90%**
H	23.45	29	680.05	**107%**
			Overall Avg Utilization	**97%**

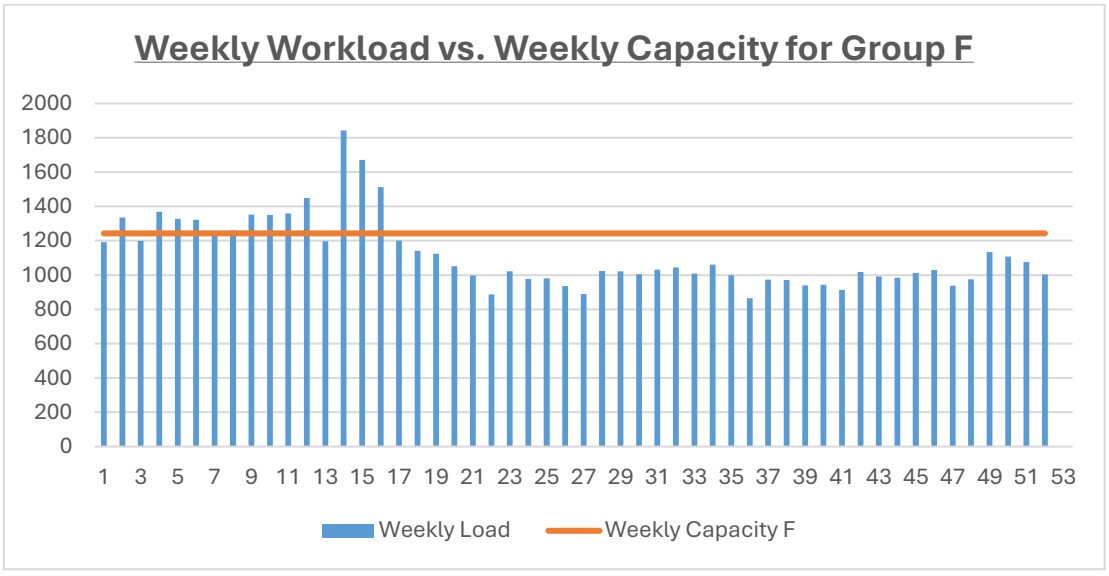

Weekly Workload vs. Weekly Capacity for Group A
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51
Weekly Workload
Weekly Capacity A

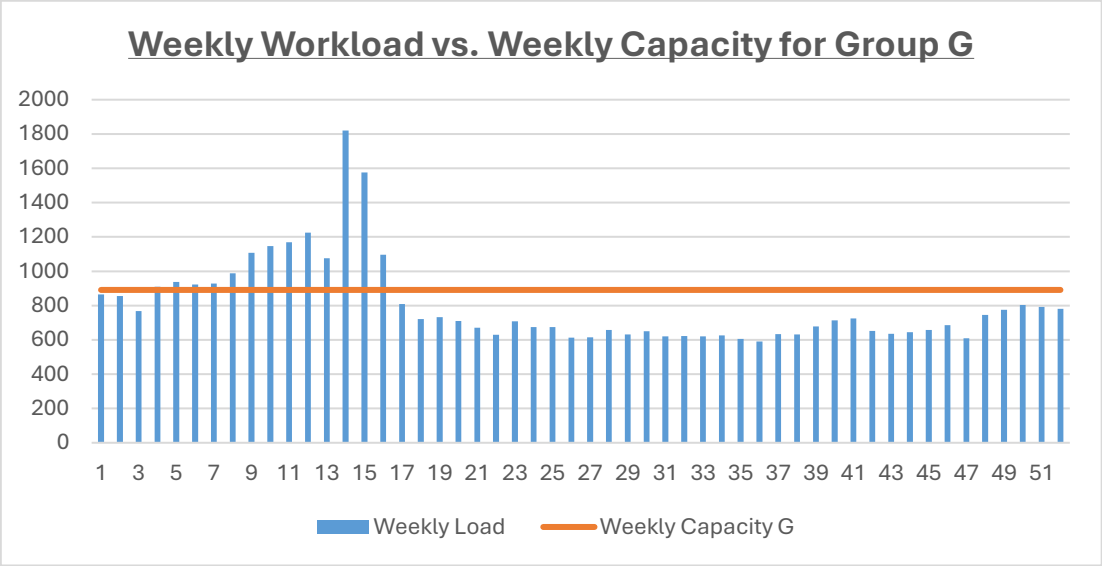

Weekly Workload vs. Weekly Capacity for Group B
900
800
700
600
500
400
300
200
100
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51
Weekly Load
Weekly Capacity B

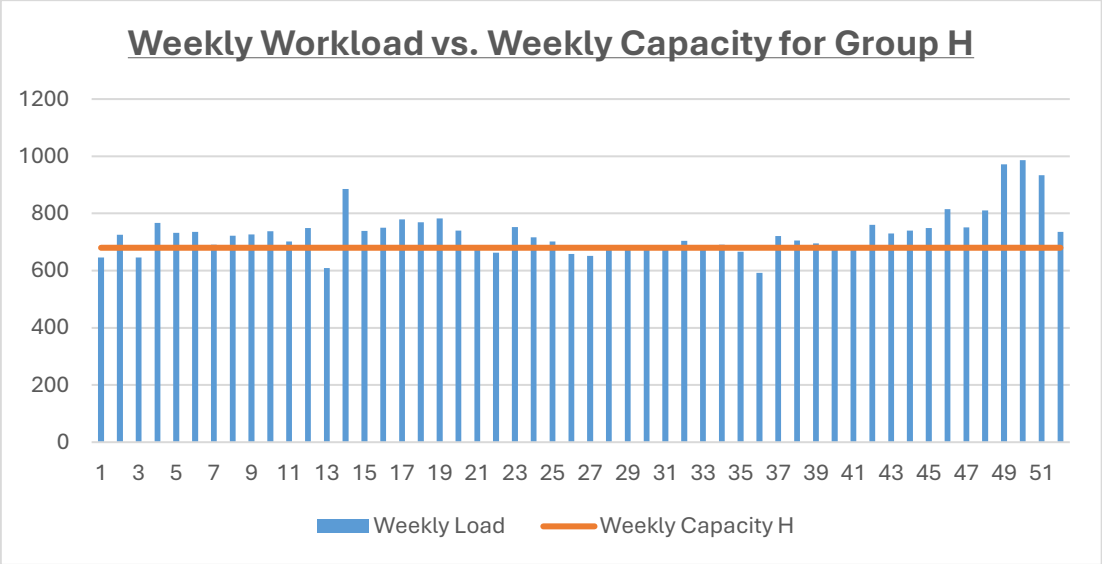

Weekly Workload vs. Weekly Capacity for Group C
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51
Weekly Load
Weekly Capacity C


Weekly Workload vs. Weekly Capacity for Group D
1000
900
800
700
600
500
400
300
200
100
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51
Weekly Load
Weekly Capacity D


Weekly Workload vs. Weekly Capacity for Group E
1800
1600
1400
1200
1000
800
600
400
200
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51
Weekly Load
Weekly Capacity E


Weekly Workload vs. Weekly Capacity for Group F
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53
Weekly Load
Weekly Capacity F





Q6. How would you improve the crew assignment proposed in question 5? How would you handle the peaks and valleys in the workloads?

Recommendations:

- **Address Over- and Underutilization:**
  i. Underutilized Groups (like E,F,G): Reallocate staff to higher-utilization groups or train them to take on tasks from other categories.
  ii. Overutilized Groups (like A, H): Increase staffing to better balance workloads or transfer tasks to underutilized teams.
- **Dynamic Reallocation:**
  i. Use weekly workload data to dynamically adjust assignments, especially during peak weeks for high-demand groups.
- **Cross-Training:**
  i. Train crew members to handle tasks across multiple categories, allowing for flexibility in addressing spikes in workload.
- **Peaks and Valleys Management:**
  i. **Peaks:** Allocate temporary floating staff or implement overtime for groups experiencing surges.
  ii. **Valleys:** Leverage automation and reschedule less critical tasks to balance workloads.

- **Data-Driven Adjustments:**
    i. Regularly monitor utilization metrics to adjust staffing based on trends and avoid persistent overloading or underutilization.