

Dar Al Riyadh Insight #87

Dirty Dozen

Dar Al Riyadh Insights reflect the knowledge and experience of our Board, executives and staff in leading and providing PMC, design and construction management services. Dar Al Riyadh believes in the importance of broadly sharing knowledge with our clients and staff to improve project outcomes for the benefit of the Kingdom of Saudi Arabia.

Introduction

Human factors affect safety, quality, cost, performance, and schedule. They are important on all projects, but on large complex projects the network of interactions grows in nonlinear ways. This nonlinearity is often underappreciated, as are:

- human factors related to the management systems deployed.
- work process in use and the tasks performed with them.
- equipment in use and the facilities where they are operated.
- a broad set of environmental and contextual factors.

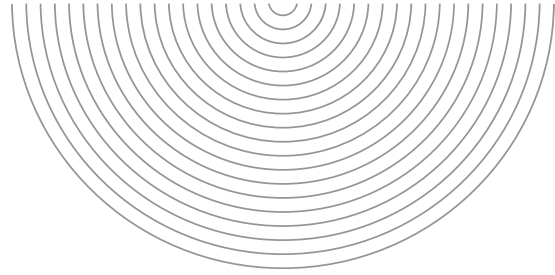
These human factors are affected by each of the aforementioned, but also act on each, further shaping them.

This series of Insights will show the suite of human factors to be considered in large complex projects is much broader, takes on increased importance, and requires even more attention because of project size and complexity.

Twelve Human Factors or the “Dirty Dozen”

Project management is about many things. At its core it is about mobilizing resources to deliver output or outcomes. The resources mobilized generally consist of labor, materials, and equipment. It is not atypical for direct construction labor costs to account for 40 percent of total constructed cost. Labor, however, is not simply a cost item. Human beings are networked and interact in ever-changing ways.

Gordon Dupont, the first president of the Pacific Aircraft Maintenance Engineers Association, identified twelve factors that contribute to errors in judgement and ultimately to errors in performance. These are shown in the following table. They represent a good starting point when evaluating and avoiding human error.



Dirty Dozen
1. Lack of Communication
2. Complacency
3. Lack of Knowledge
4. Distraction
5. Lack of Teamwork
6. Fatigue
7. Lack of Resources
8. Pressure
9. Lack of Assertiveness
10. Stress
11. Lack of Awareness
12. Norms