

Michigan Specialty Contractors Federation

Survey to Improve Productivity in Commercial / Industrial Construction

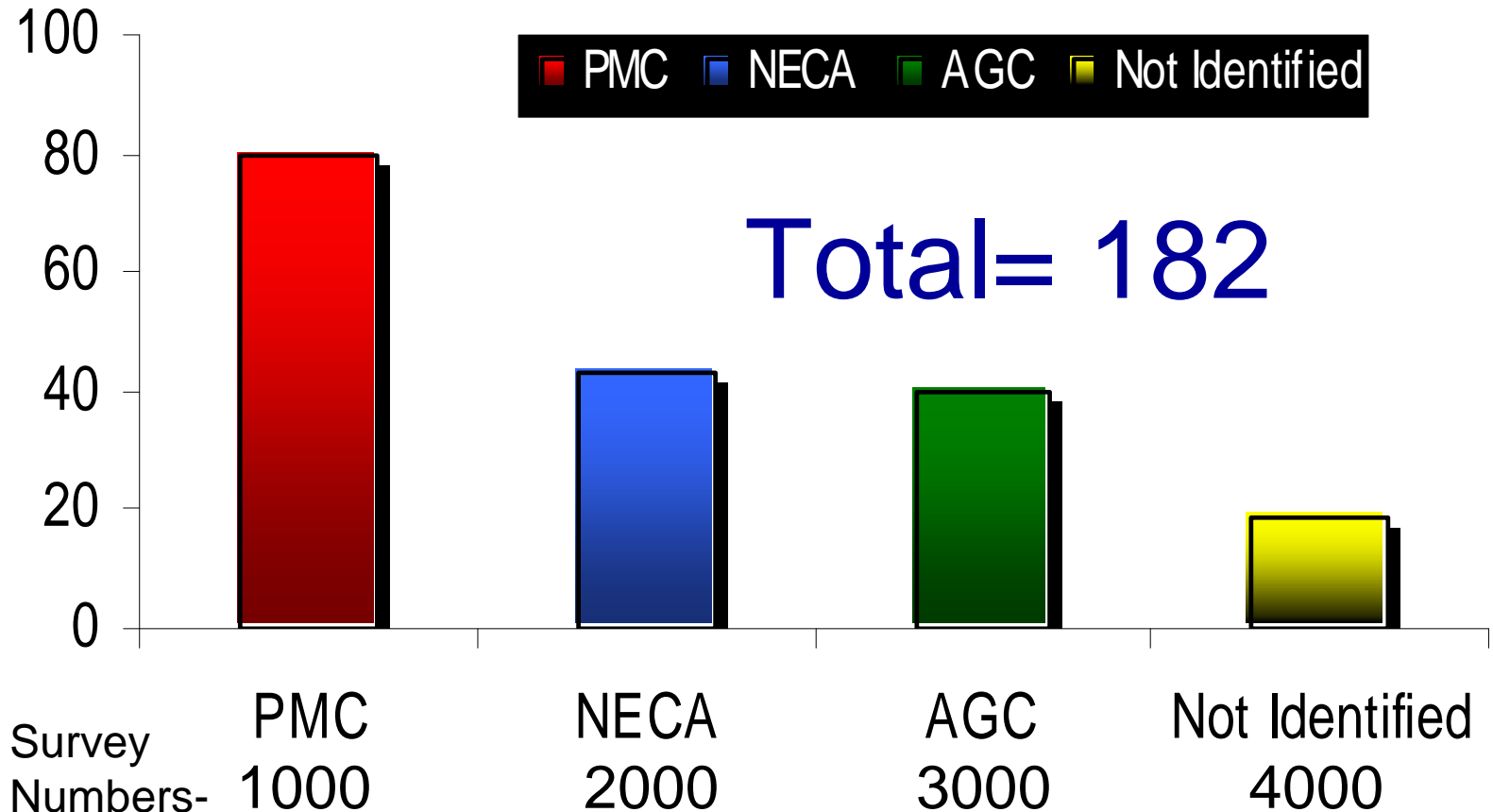
September 23, 2003

Presentation - Michigan Tri-Partite Committee

Walter W. Tucker, Ph.D.
Eastern Michigan University



Respondents' Affiliation



Sample

Sample: Individuals serving in a supervisory capacity initially trained through a building trades union. Employees of contractors affiliated with PMC, NECA, and AGC.

Statistically Reliable Data

High Degree of Consistency Among Groups

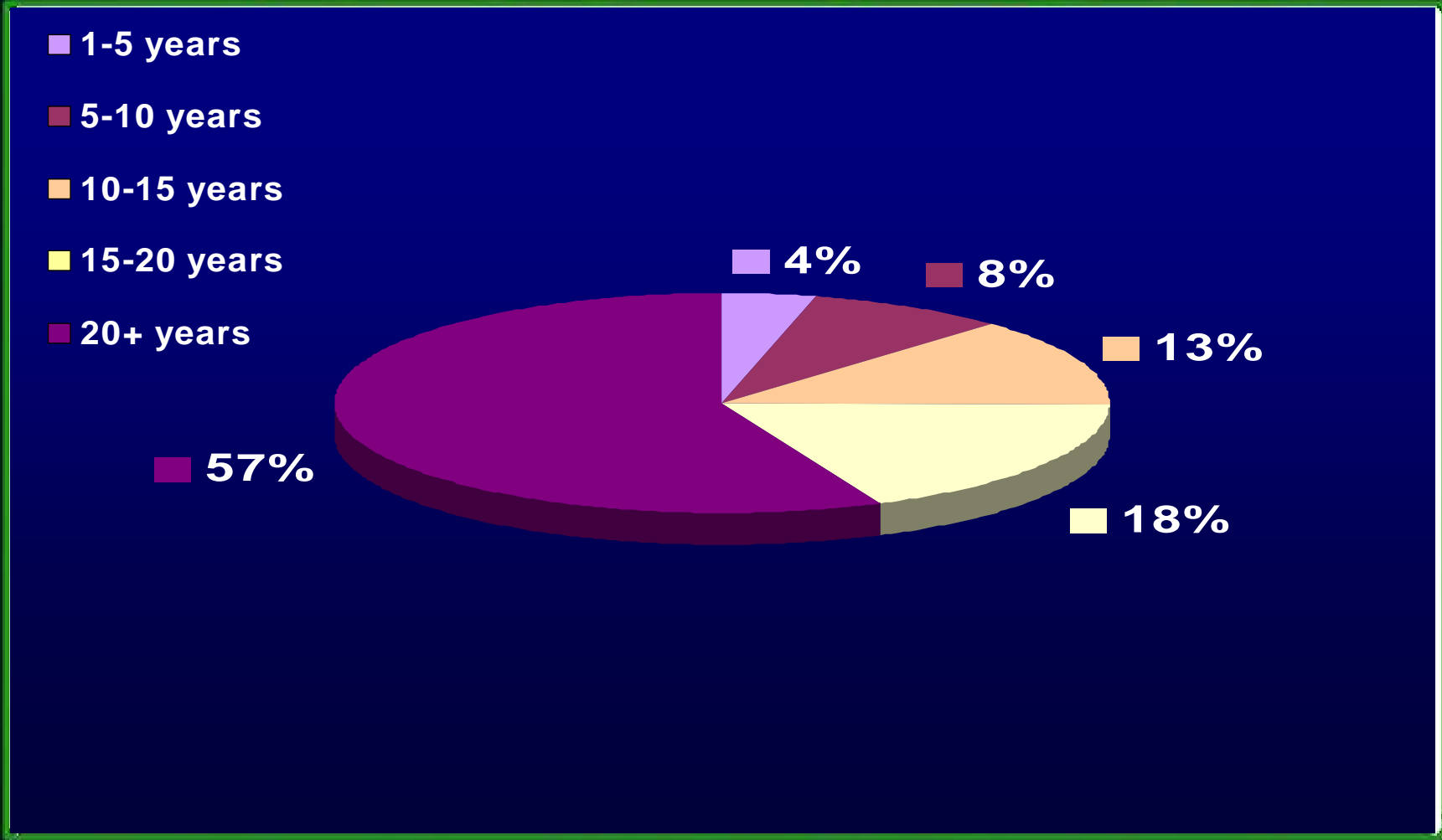
Purposive Not Probabilistic Sample

Self-Reporting Bias

Expanding Sample Should Provide Very Similar Results



Work Experience



Codebook Question 2: Greatest Barriers to Productivity Improvement Random Code – Not Listed In Order of Priority (Codes 1-5)

Code 1: Tools and Materials

Example responses: (1) Material handling and ordering, (2) Having the right tools and equipment when you need it.

Code 2: Work Ethic / Motivation

Example responses: (1) Keeping the men interested in the job. (2) Motivation of the people on the job

Code 3: Quality of Workforce / Training

Example responses. (1) Qualified craftsman with all the organizing of non-union help the quality of journey men has gone down. (2) Training - competent workforce

Code 4: Quality of Management

Example responses: (1) Go back to the old style of general contracting where the trades are coordinated by the general contractor, (2) Construction managers - I have yet to see where this saves anything. They want productivity and do nothing to help.

Code 5: Design documentation and change orders/engineering

Example responses: (1) Construction drawings-they are bad and getting worse every year. The architect is not doing his job and thus the contractor has to do it for him. (2) Engineering/Arch conflicts (lost time getting answers)



Codebook Question 2: Greatest Barriers to Productivity Improvement **Random Code – Not Listed In Order of Priority (Codes 6-9)**

Code 6: Construction Management / Scheduling / Planning

Example responses: (1) Job meeting - sticking to schedule. (2) Scope changes; they upset the work routine.

Code 7: General Communications / Information Flow

Example responses: (1) Share with foreman and employees honestly. Information regarding how the job is doing financially (i.e. - are we making or losing money on particular jobs). (2) Effective communication - Lack of it.

Code 8: Union Issues

Example responses: (1) Union Mentality. (2) An understanding by the field labor and the union hall about the importance of production.

Code 9: Working Conditions / Safety / Jobsite Issues

Example responses: (1) Job site conditions - accessibility to building, lay down areas etc. (2) Use a more common sense approach to safety requirements as the individual task is performed.



Codebook Question 3: What Could Be Done To Enhance Productivity? Random Code – Not Listed In Order of Priority (Codes 1-5)

Code 1: Tools and Materials

Example responses: (1) Material flow planned from beginning (2) System of documentation of material receipt and location of storage.

Code 2: Work Ethic / Motivation

Example responses: (1) Incentives (2) Involve trades in decisions which affect them

Code 3: Quality of Workforce / Training

Example responses. (1) Leadership training (2) Improved skills and expectations of apprentices

Code 4: Quality of Management

Example responses: (1) Too much power given to inexperienced managers (2) Establish productivity goals for supervision

Code 5: Design documentation and change orders/engineering

Example responses: (1) Engineering and architecture know what each trade does (2) Design should accommodate build sequence not retard it



Codebook Question 3: What Could Be Done To Enhance Productivity? Random Code – Not Listed In Order of Priority (Codes 6-9)

Code 6: Construction Management / Scheduling / Planning

Example responses: (1) C.M.'s sell schedules to owners which are impossible to keep (2) People at top work to make coordination at bottom function properly.

Code 7: General Communications / Information Flow

Example responses: (1) Quick decisions (2) Job site meeting each week.

Code 8: Union Issues

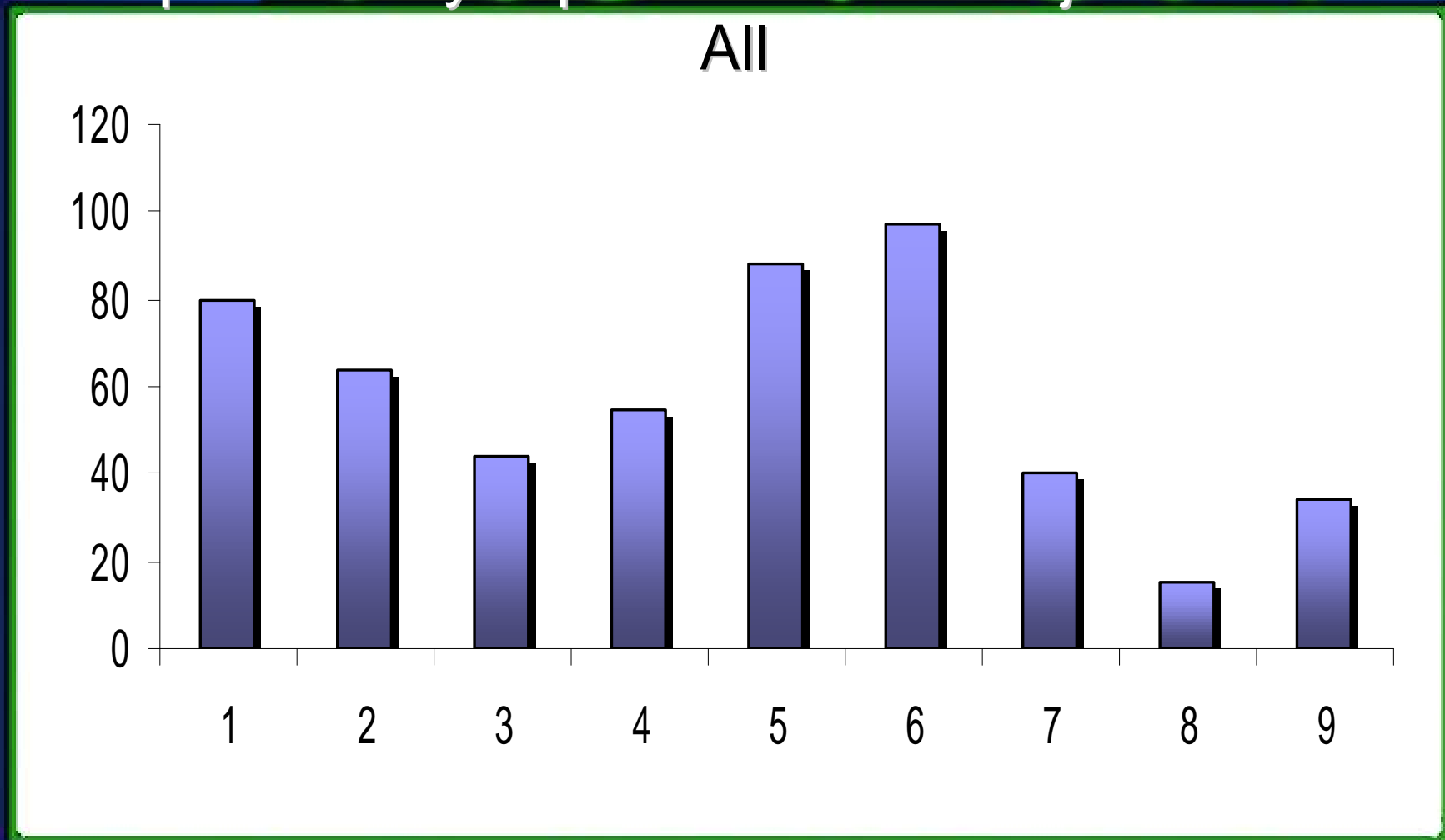
Example responses: (1) Union management should be more accepting and pass it down (2) Seniority

Code 9: Working Conditions / Safety / Jobsite Issues

Example responses: (1) Power outlets within 50 feet of work (2) C.M. enforce keeping job site free of debris



What do you feel are the greatest barriers to productivity improvement on the job site?



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NECA
National Electrical Contractors Association

1- Tools and Materials

2- Work Ethic/Motivation

3- Quality of Workforce/Training

4- Quality of Management

5- Design / Documentation

6- Project Management

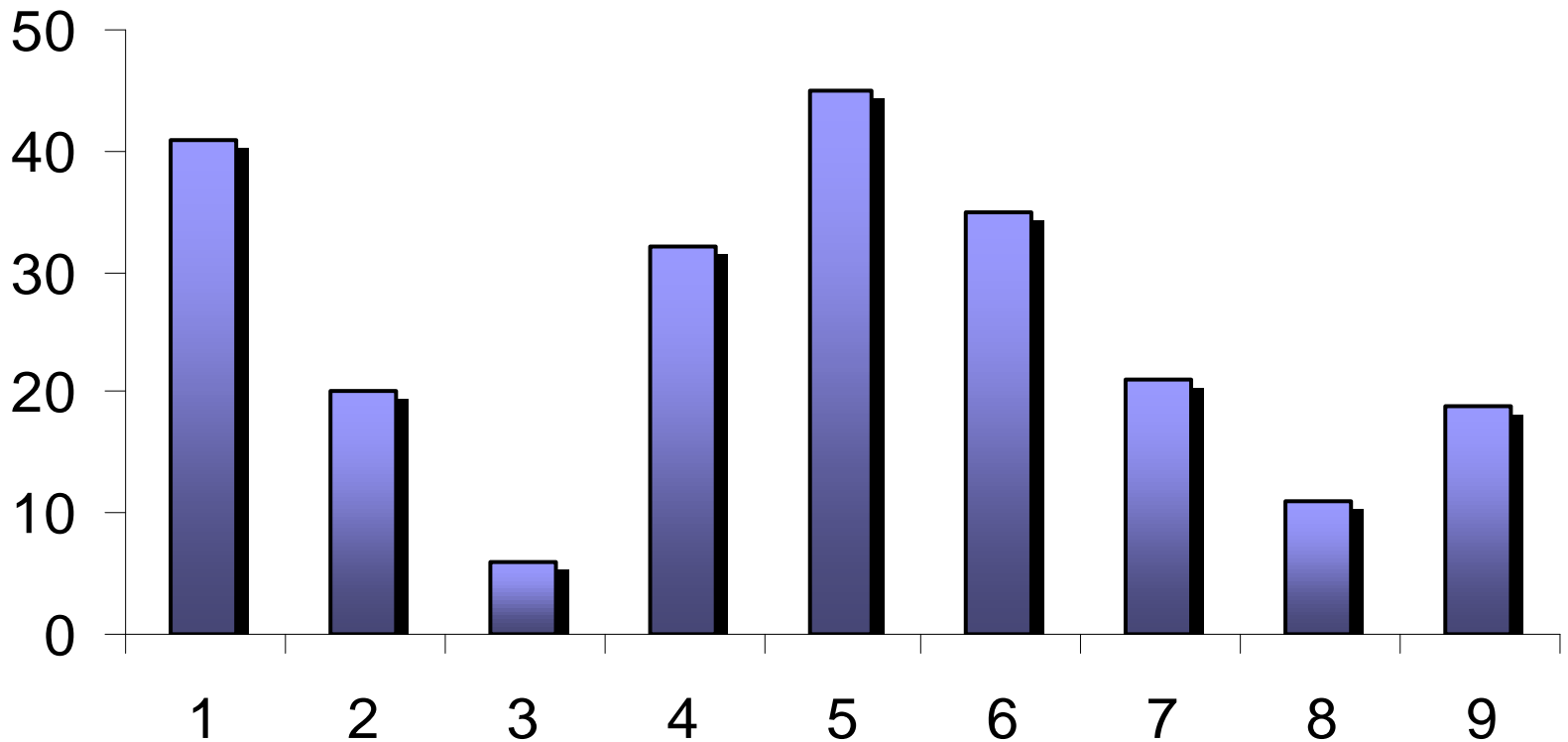
7- General Communications

8- Union Issues

9- Safety/Working Conditions

What do you feel are the greatest barriers to productivity improvement on the job site?

PMC Only



1- Tools and Materials

2- Work Ethic/Motivation

3- Quality of Workforce/Training

4- Quality of Management

5- Design / Documentation

6- Project Management

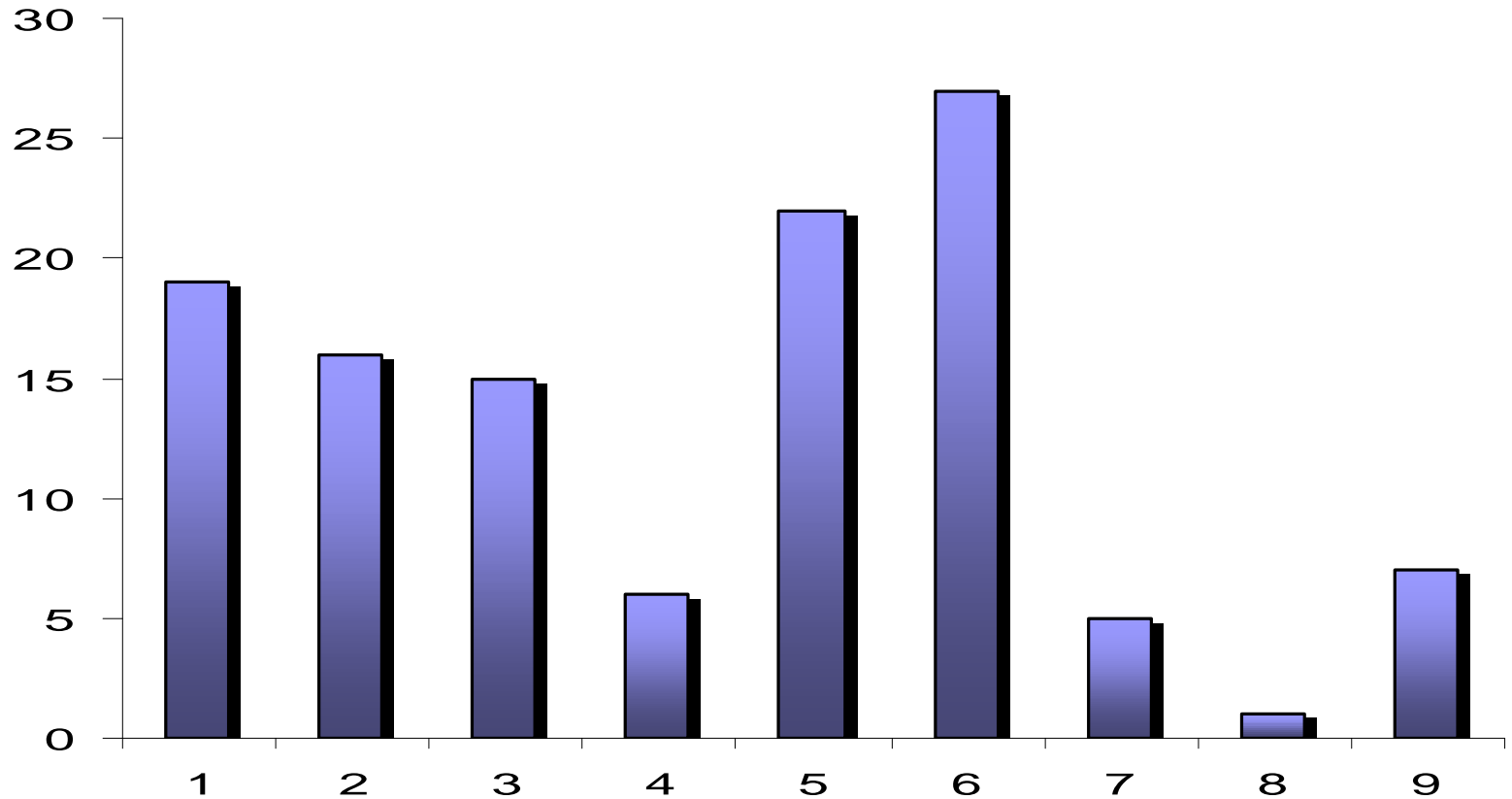
7- General Communications

8- Union Issues

9- Safety/Working Conditions

What do you feel are the greatest barriers to productivity improvement on the job site?

NECA Only



1- Tools and Materials

2- Work Ethic/Motivation

3- Quality of Workforce/Training

4- Quality of Management

5- Design / Documentation

6- Project Management

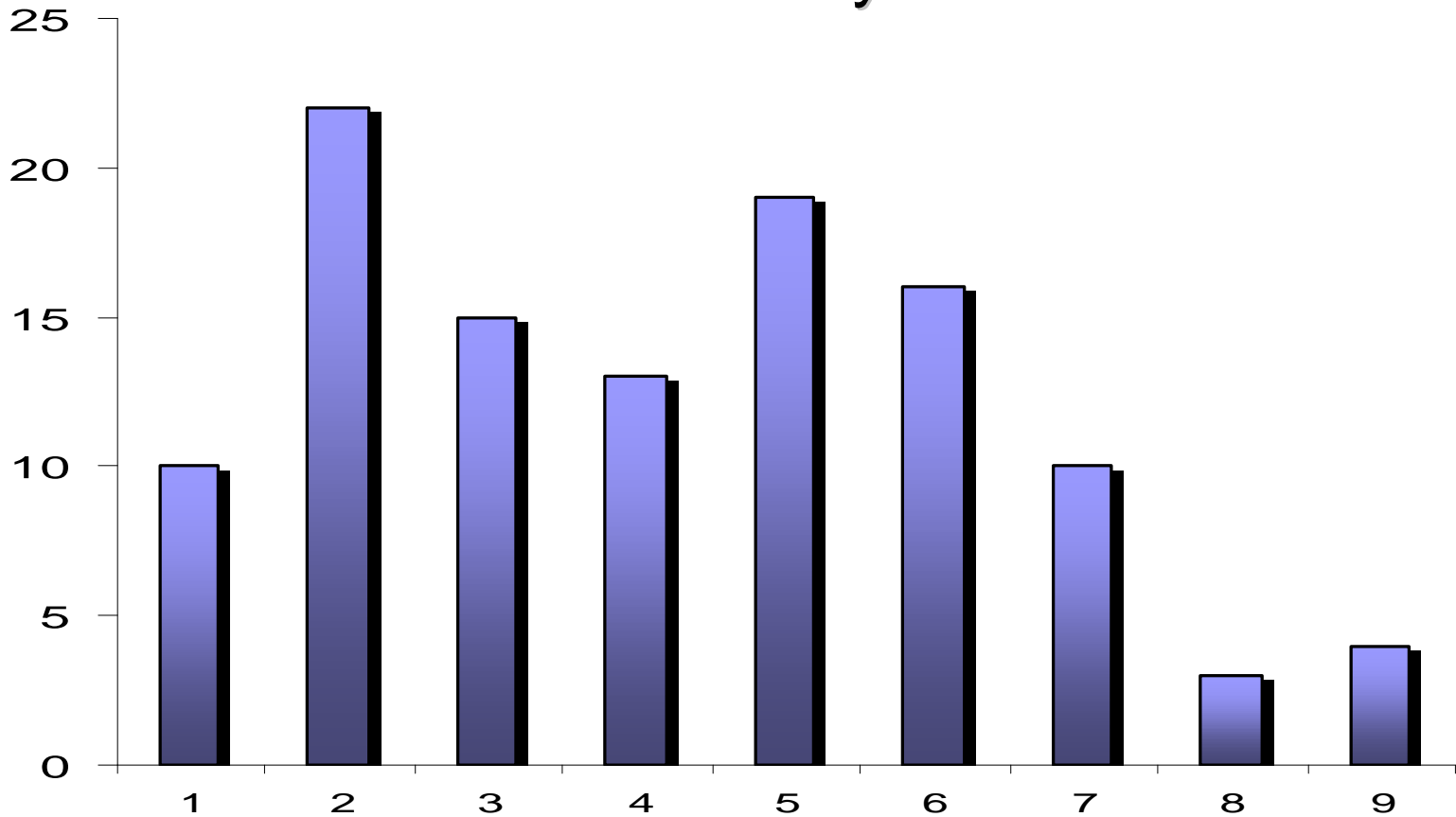
7- General Communications

8- Union Issues

9- Safety/Working Conditions

What do you feel are the greatest barriers to productivity improvement on the job site?

AGC Only



1- Tools and Materials

2- Work Ethic/Motivation

3- Quality of Workforce/Training

4- Quality of Management

5- Design / Documentation

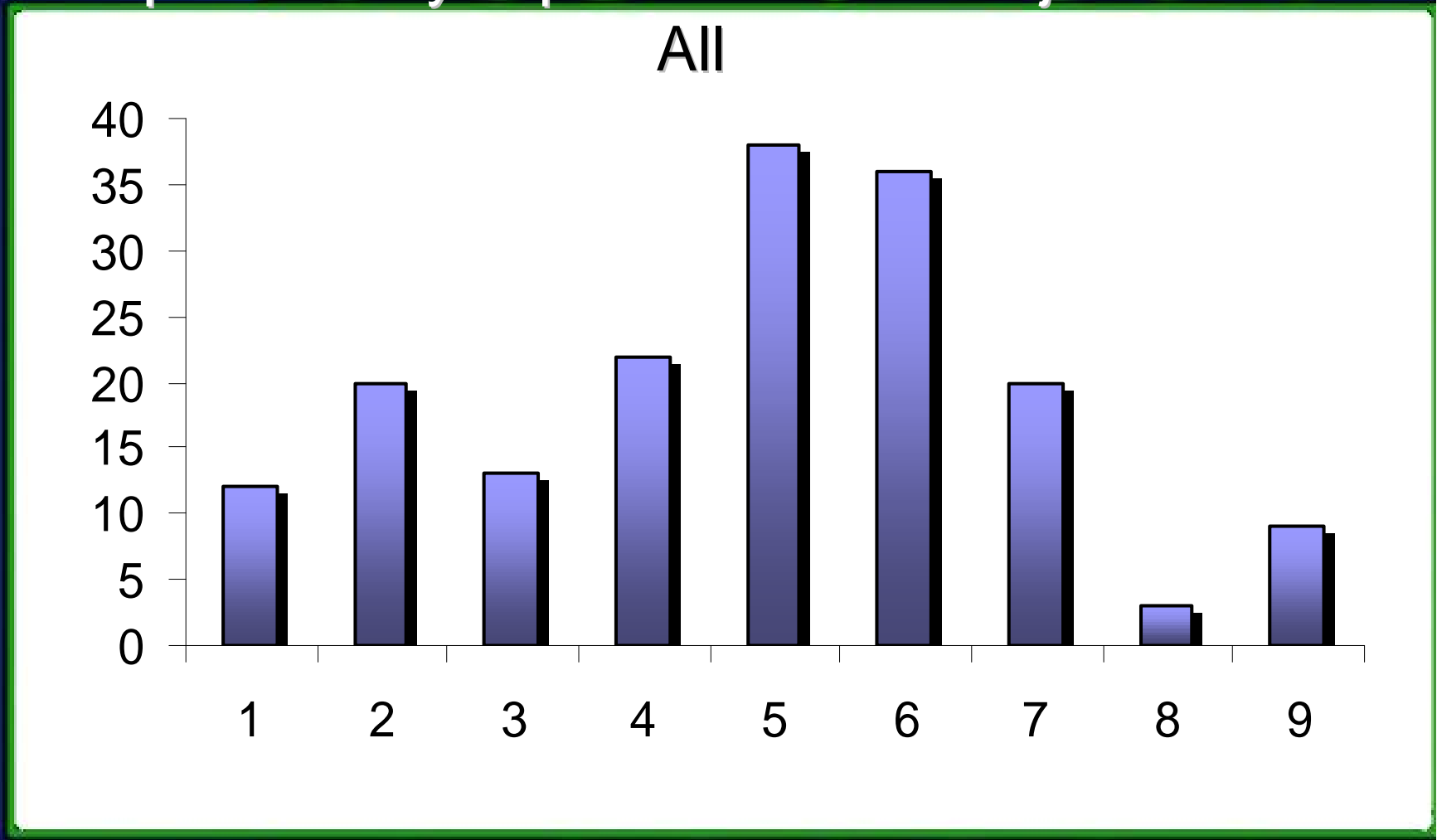
6- Project Management

7- General Communications

8- Union Issues

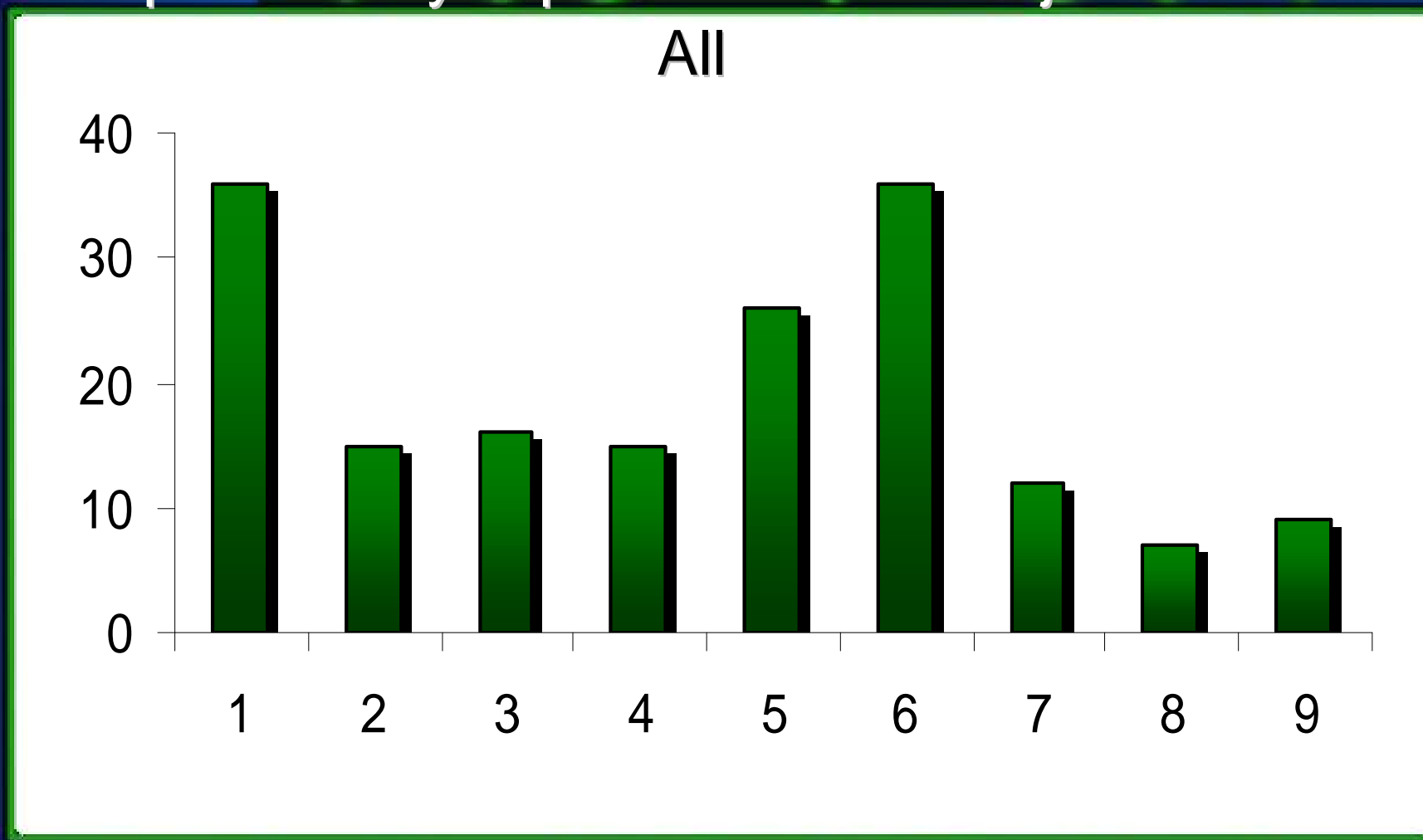
9- Safety/Working Conditions

What do you feel is the greatest barrier to productivity improvement on the job site?



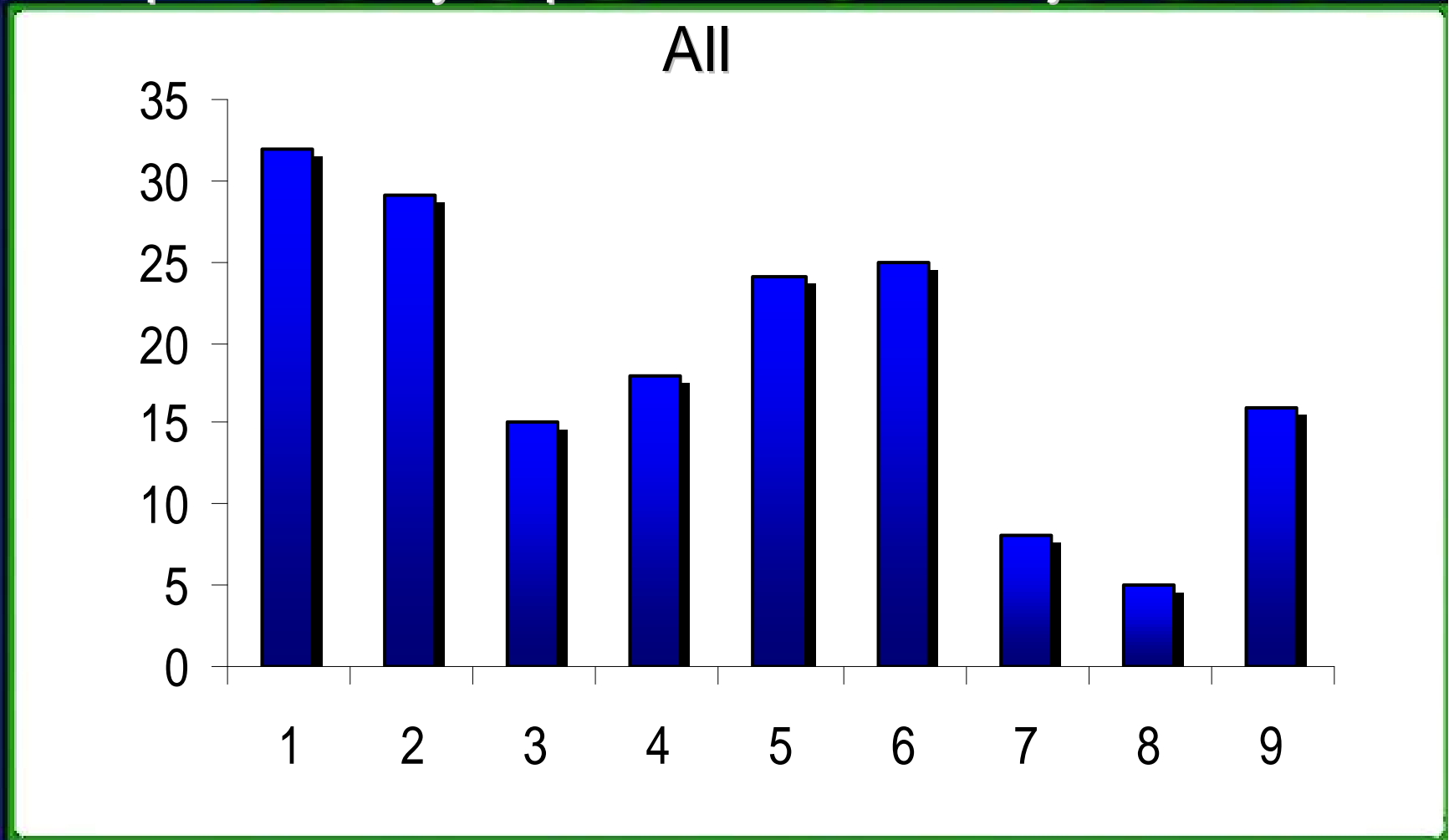
- 1- Tools and Materials
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- 5- Design / Documentation
- 8- Union Issues
- 3- Quality of Workforce/Training
- 6- Project Management
- 9- Safety/Working Conditions

What do you feel is the 2nd-greatest barrier to productivity improvement on the job site?



- 1- Tools and Materials
- 4- Quality of Management
- 7- General Communications
- 2- Work Ethic/Motivation
- 5- Design / Documentation
- 8- Union Issues
- 3- Quality of Workforce/Training
- 6- Project Management
- 9- Safety/Working Conditions

What do you feel is the 3rd-greatest barrier to productivity improvement on the job site?



- 1- Tools and Materials
- 4- Quality of Management
- 7- General Communications
- 2- Work Ethic/Motivation
- 5- Design / Documentation
- 8- Union Issues
- 3- Quality of Workforce/Training
- 6- Project Management
- 9- Safety/Working Conditions

Weighted Responses: PMC + NECA + AGC

Question 2

What do you feel are the greatest barriers to productivity on the job site? Please list at least three barriers in descending order of importance with the most important first.

Weight:

Most important=5



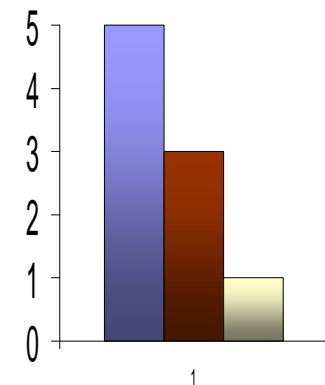
Second Most Important=3



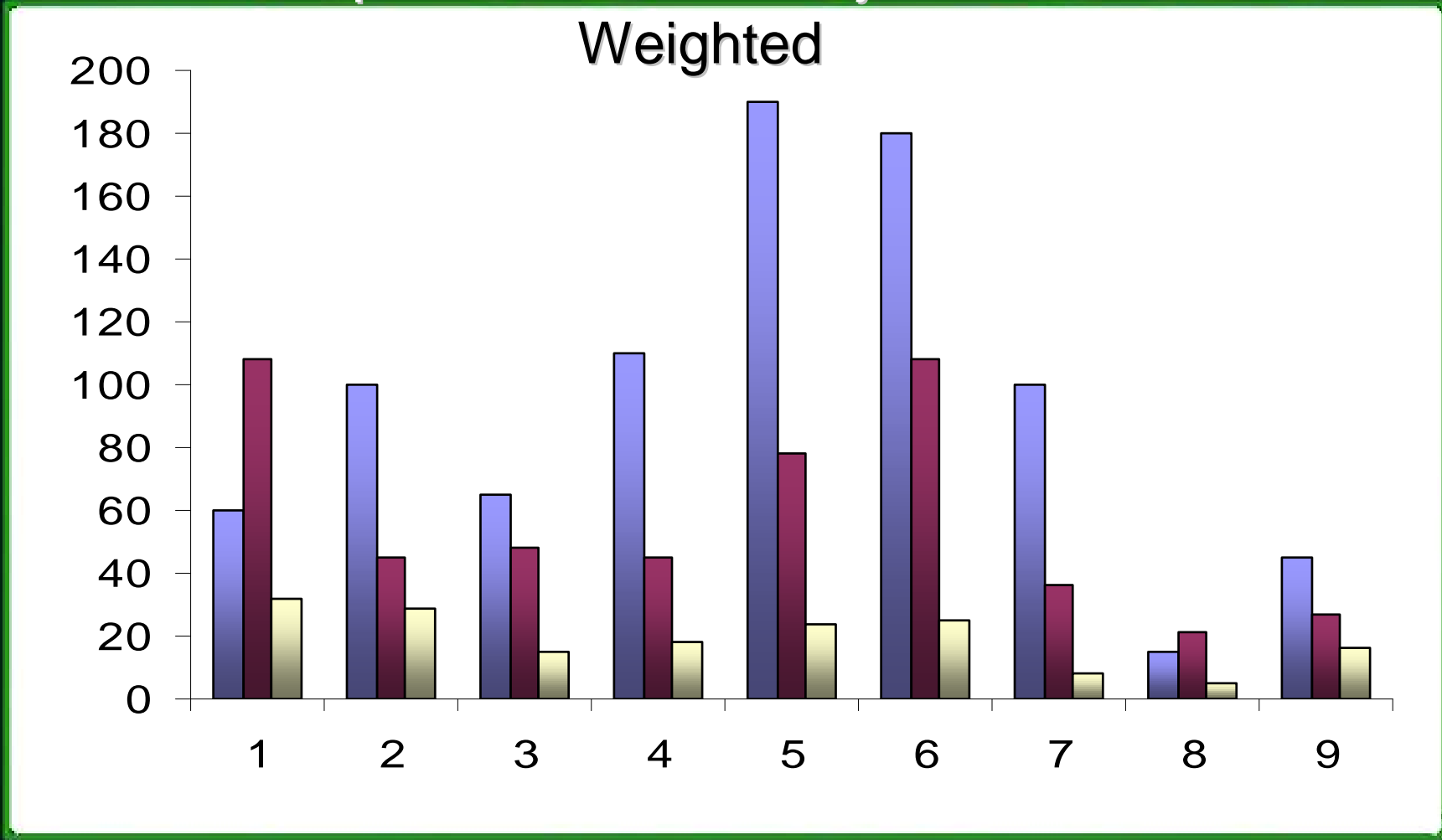
Third Most Important=1



Sample:

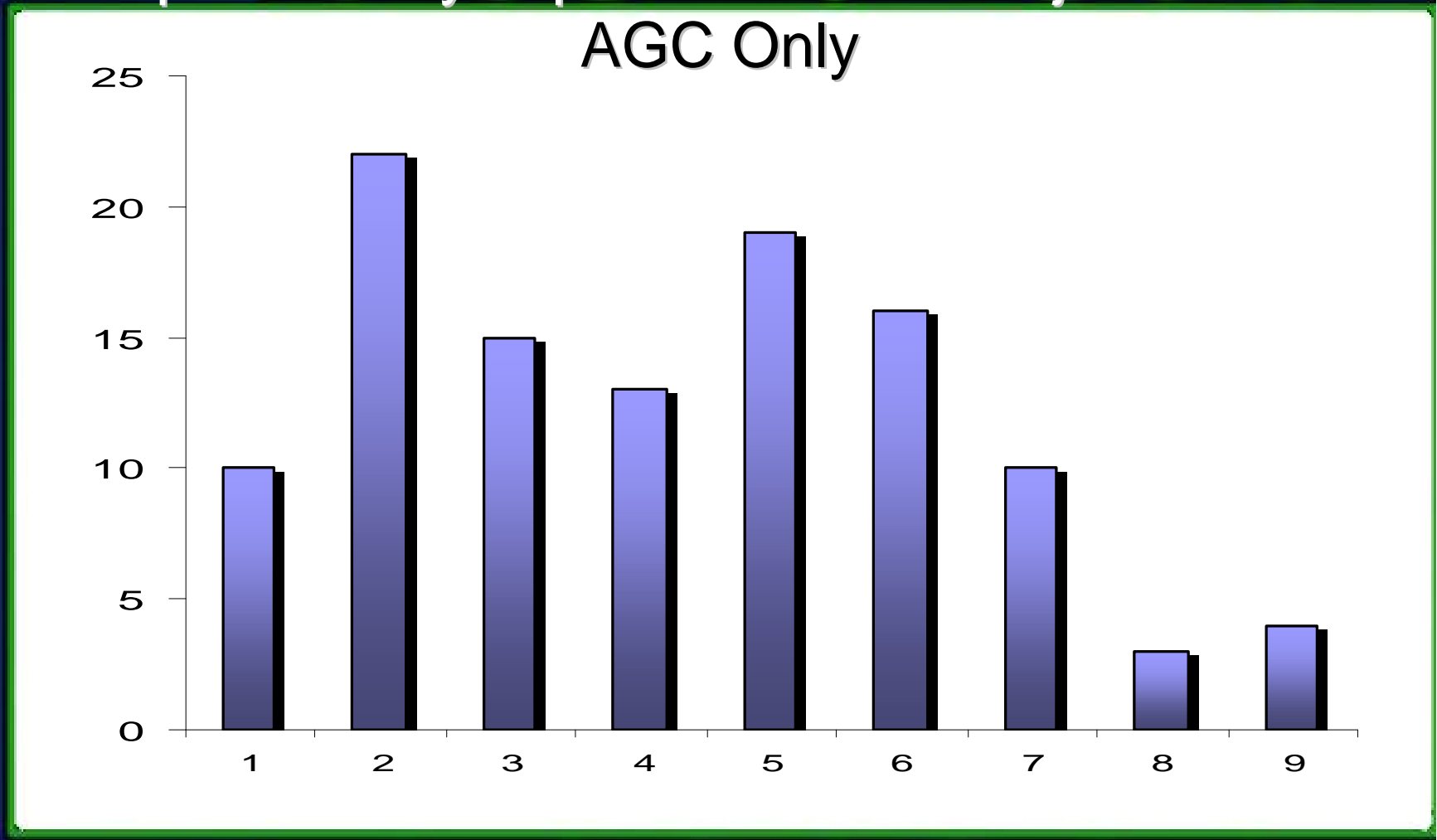


17 What do you feel is the greatest barrier to productivity improvement on the job site?



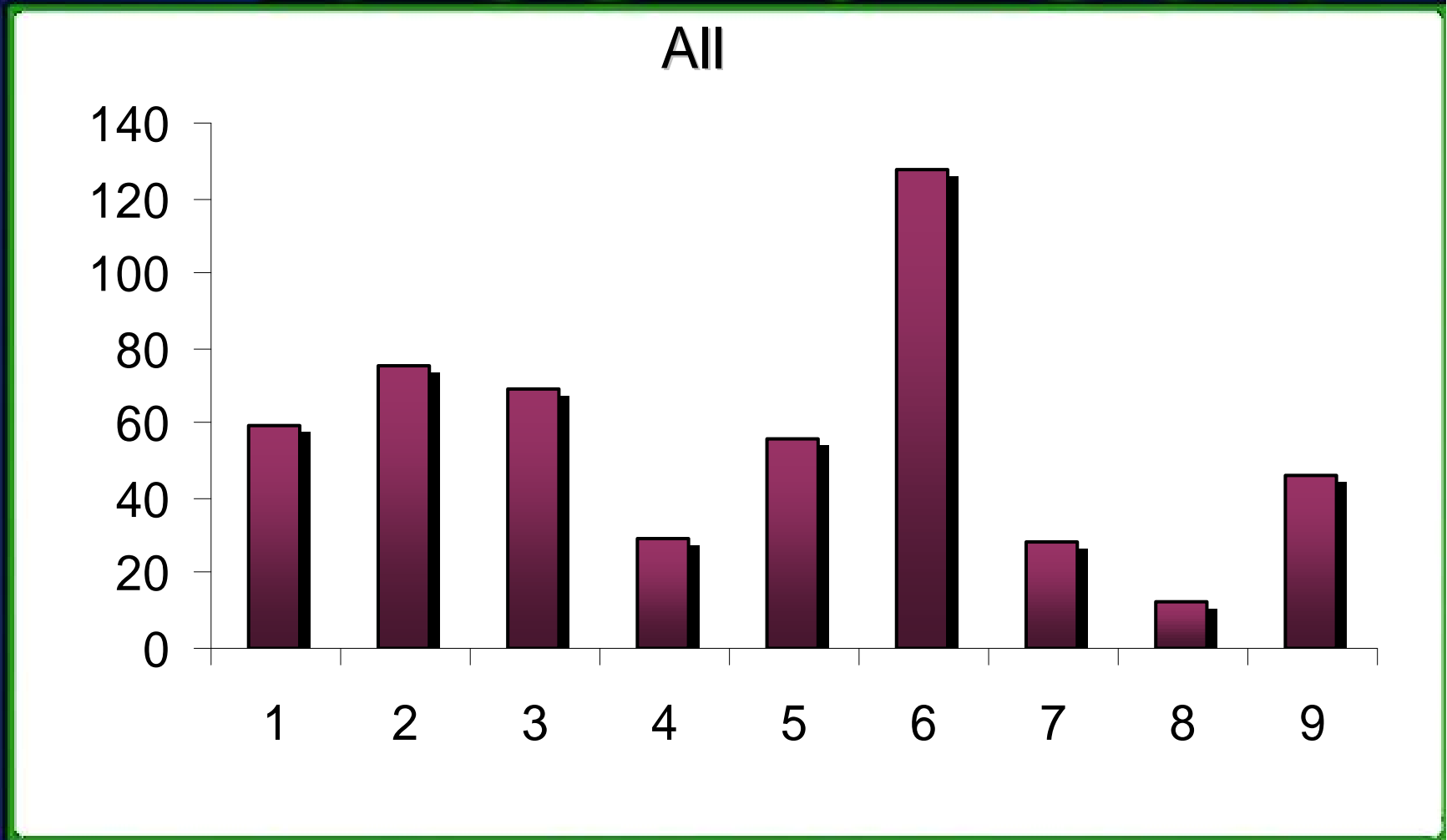
- 1- Tools and Materials
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- 3- Quality of Workforce/Training
- 4- Quality of Management
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- 9- Safety/Working Conditions

What do you feel are the greatest barriers to productivity improvement on the job site?



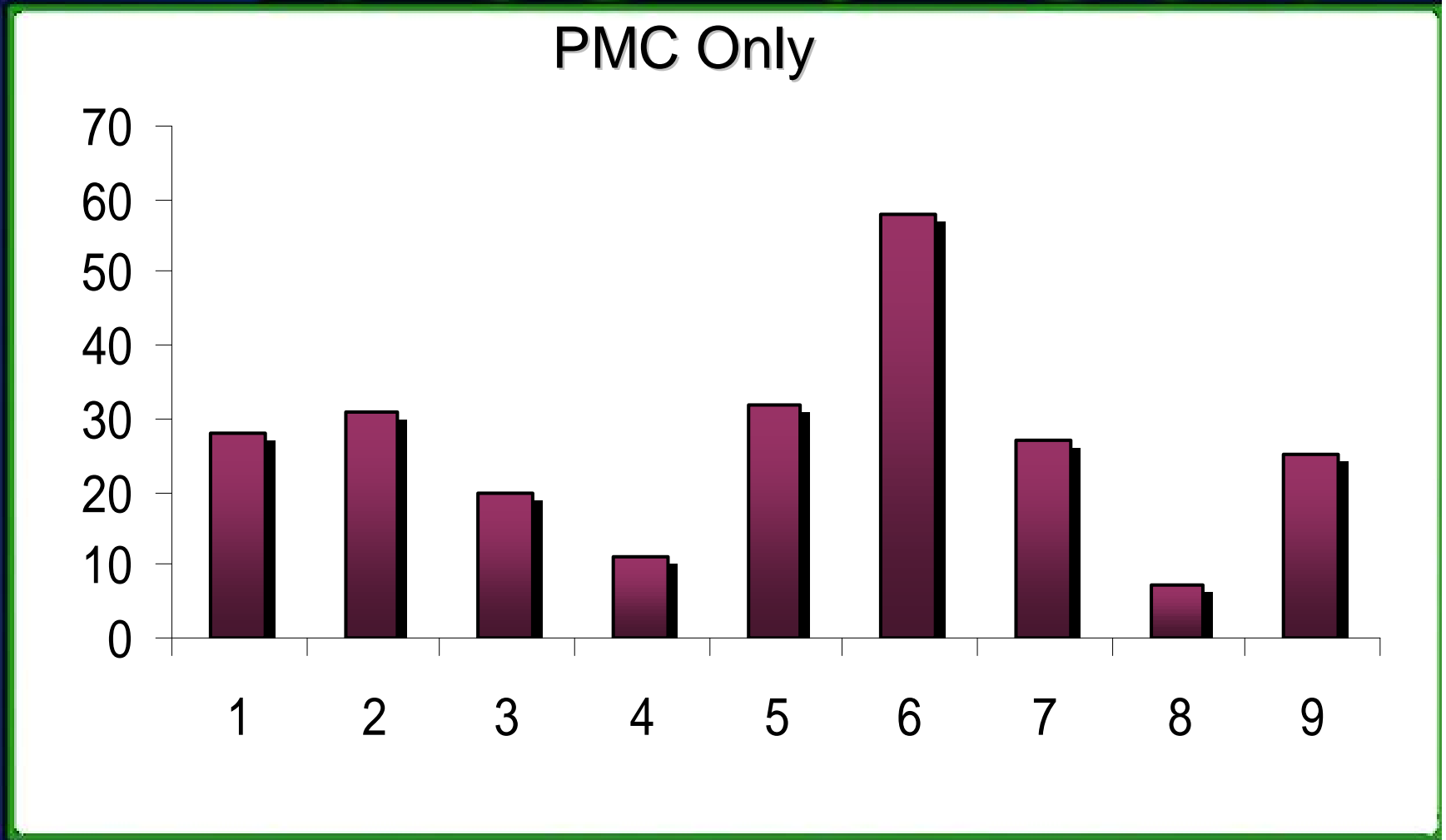
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What do you feel could be done to enhance productivity?



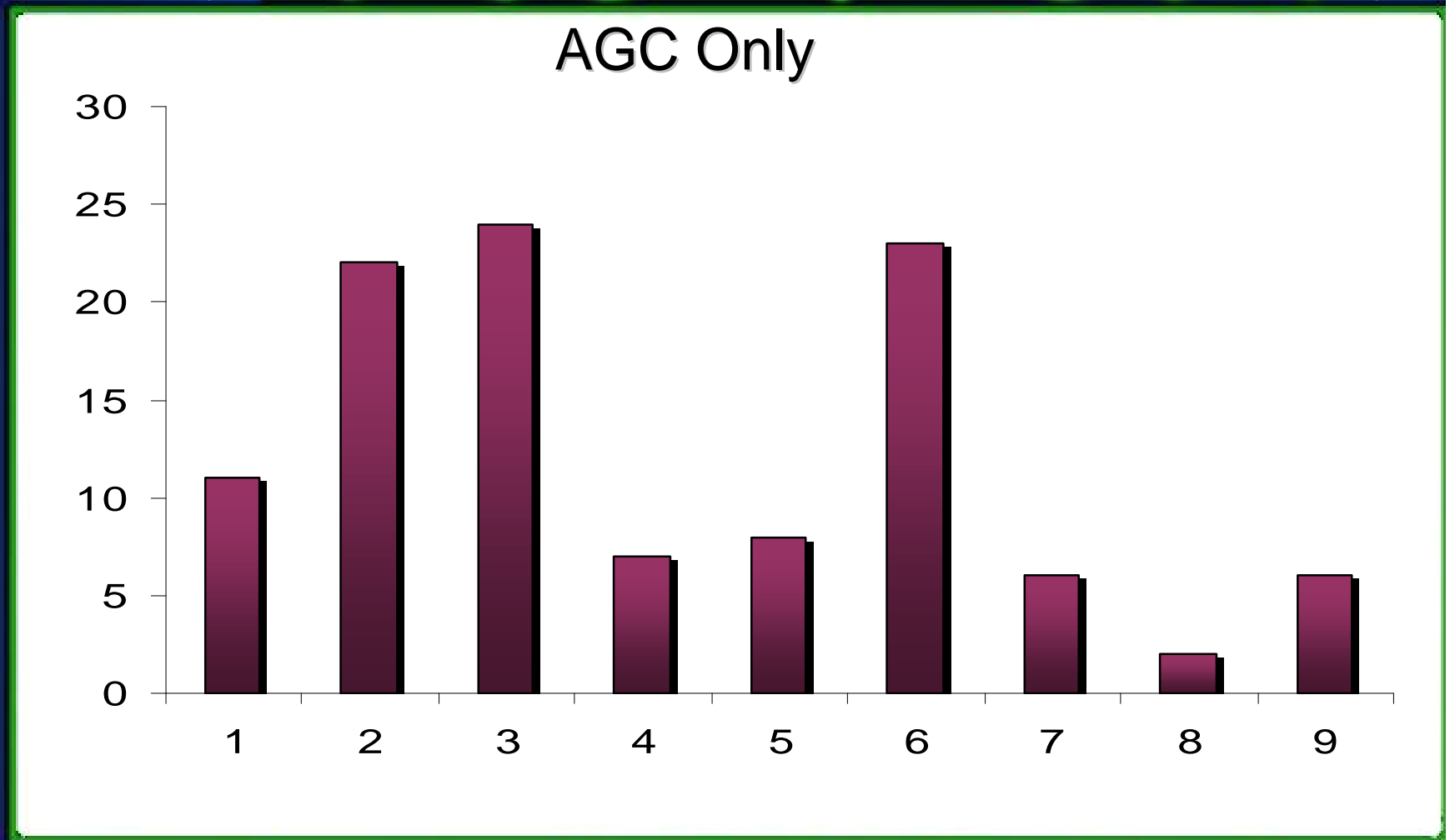
- 1- Tools and Materials
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- 8- Union Issues
- 9- Safety/Working Conditions

What do you feel could be done to enhance productivity?



- | | | |
|----------------------------------|---------------------------|------------------------------|
| 1- Tools and Materials | 4- Quality of Management | 7- General Communications |
| 2- Work Ethic/Motivation | 5- Design / Documentation | 8- Union Issues |
| 3- Quality of Workforce/Training | 6- Project Management | 9- Safety/Working Conditions |

What do you feel could be done to enhance productivity?



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NECA
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1- Tools and Materials

2- Work Ethic/Motivation

3- Quality of Workforce/Training

4- Quality of Management

5- Design / Documentation

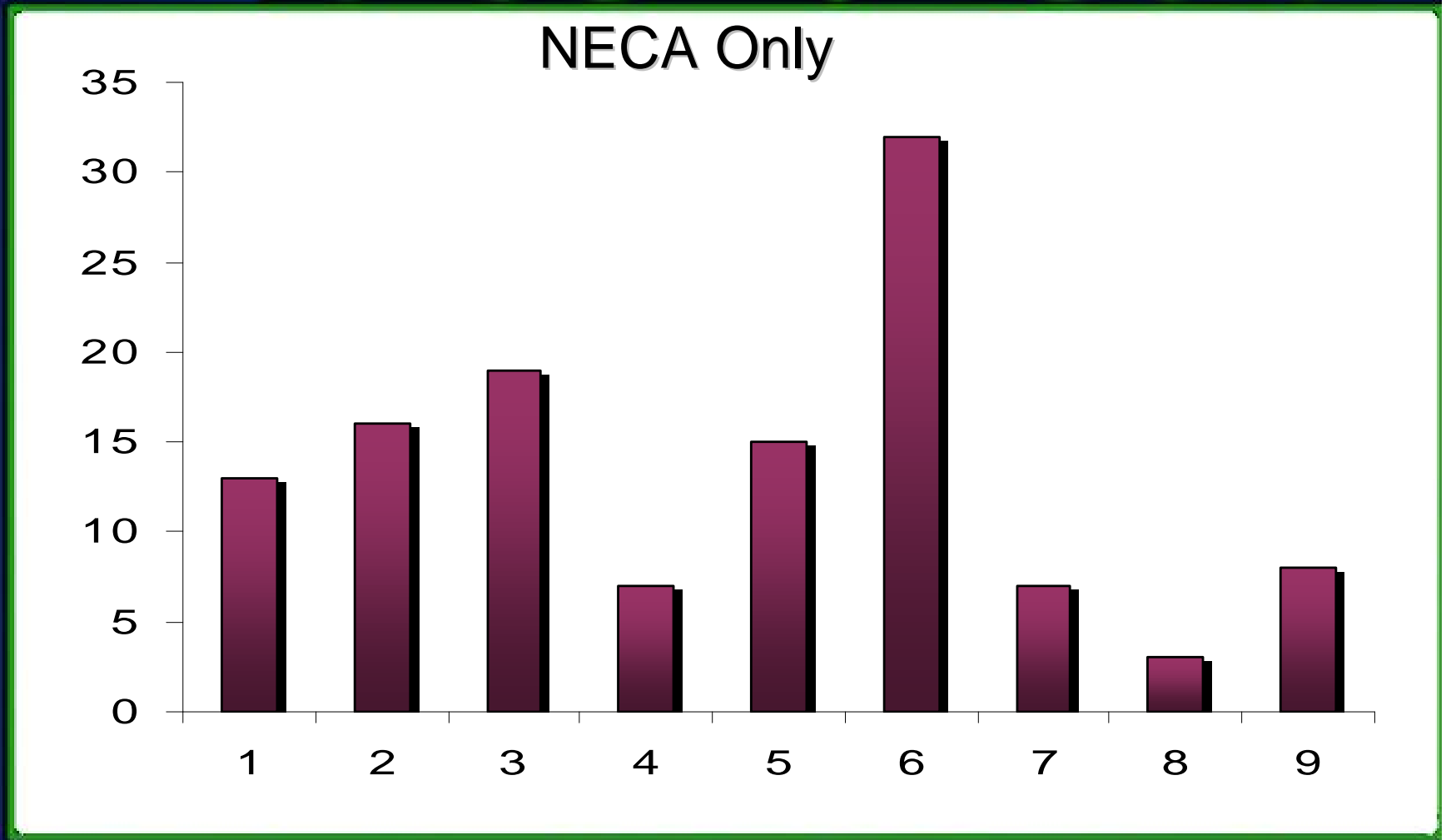
6- Project Management

7- General Communications

8- Union Issues

9- Safety/Working Conditions

What do you feel could be done to enhance productivity?



- 1- Tools and Materials
- 2- Work Ethic/Motivation
- 3- Quality of Workforce/Training
- 4- Quality of Management
- 5- Design / Documentation
- 6- Project Management
- 7- General Communications
- 8- Union Issues
- 9- Safety/Working Conditions

Weighted Responses: PMC + NECA + AGC

Question 3

What do you feel could be done to enhance productivity? Please list at least three items in descending order of importance with the most important first.

Weight:

Most important=5



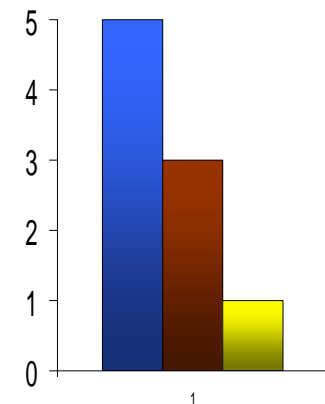
Second Most Important=3



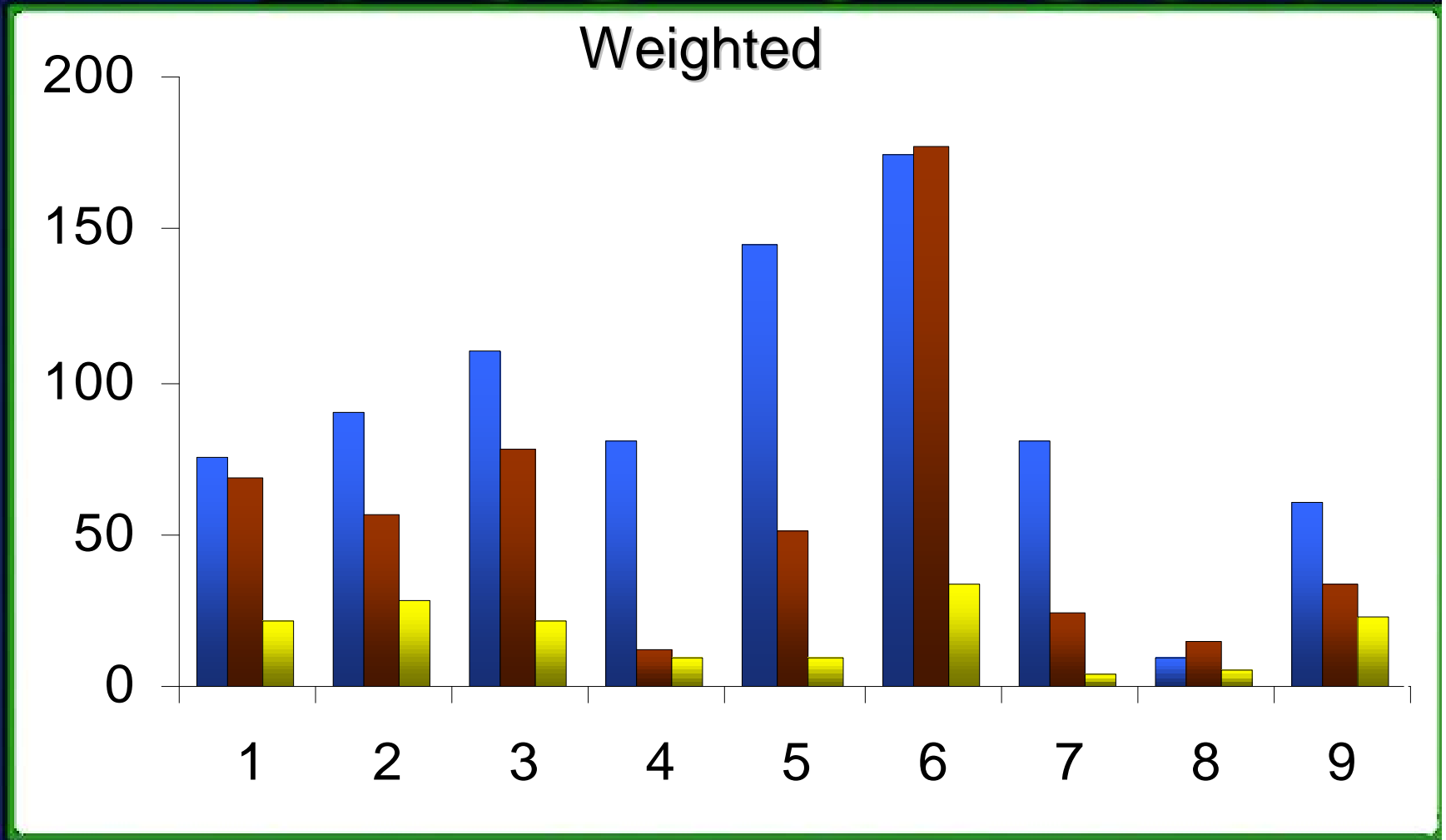
Third Most Important=1



Sample:

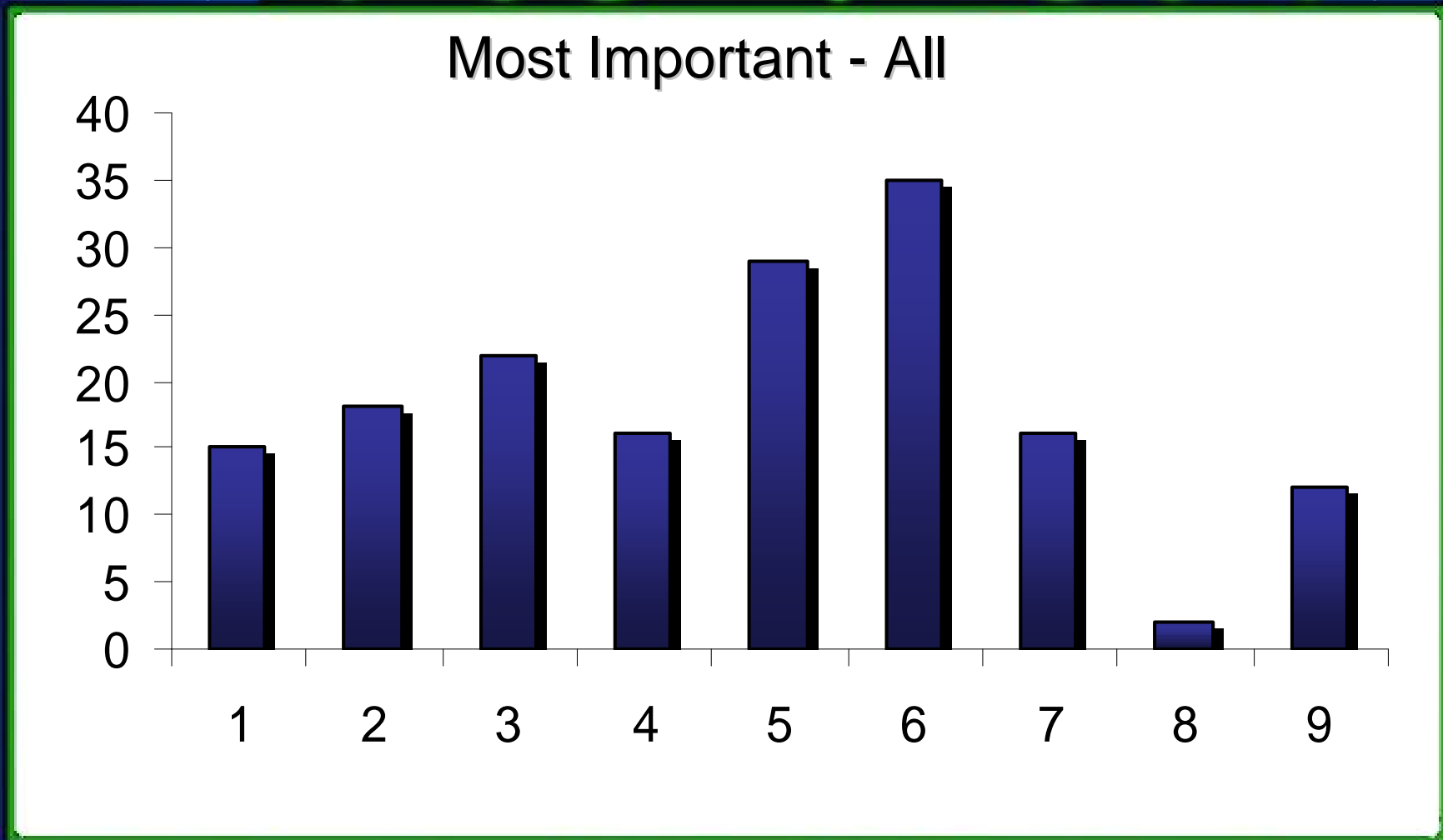


What do you feel could be done to enhance productivity?



- 1- Tools and Materials
- 2- Work Ethic/Motivation
- 3- Quality of Workforce/Training
- 4- Quality of Management
- 5- Design / Documentation
- 6- Project Management
- 7- General Communications
- 8- Union Issues
- 9- Safety/Working Conditions

What do you feel could be done to enhance productivity?



1- Tools and Materials

2- Work Ethic/Motivation

3- Quality of Workforce/Training

4- Quality of Management

5- Design / Documentation

6- Project Management

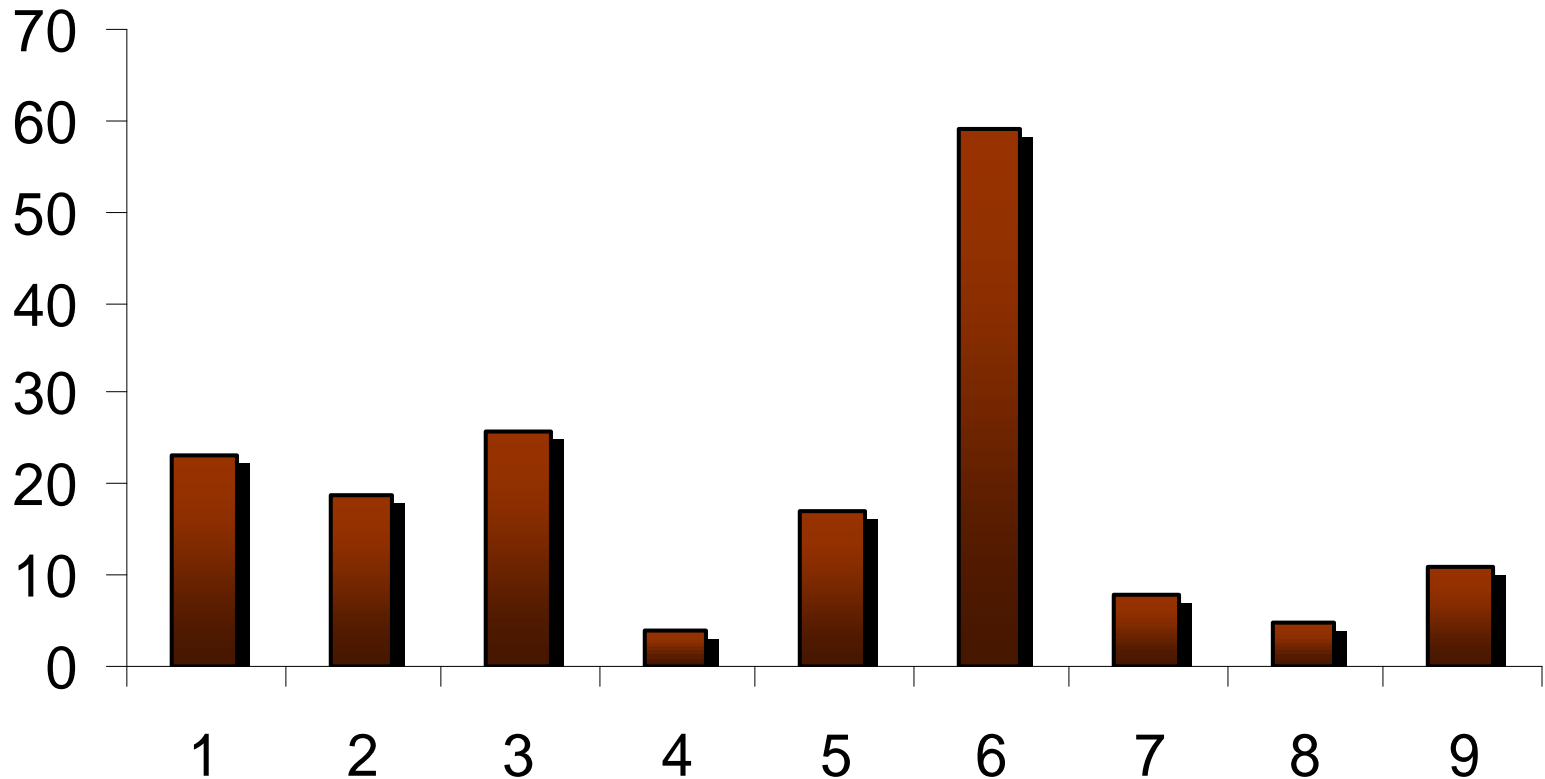
7- General Communications

8- Union Issues

9- Safety/Working Conditions

What do you feel could be done to enhance productivity?

2nd Most Important - All



1- Tools and Materials

2- Work Ethic/Motivation

3- Quality of Workforce/Training

4- Quality of Management

5- Design / Documentation

6- Project Management

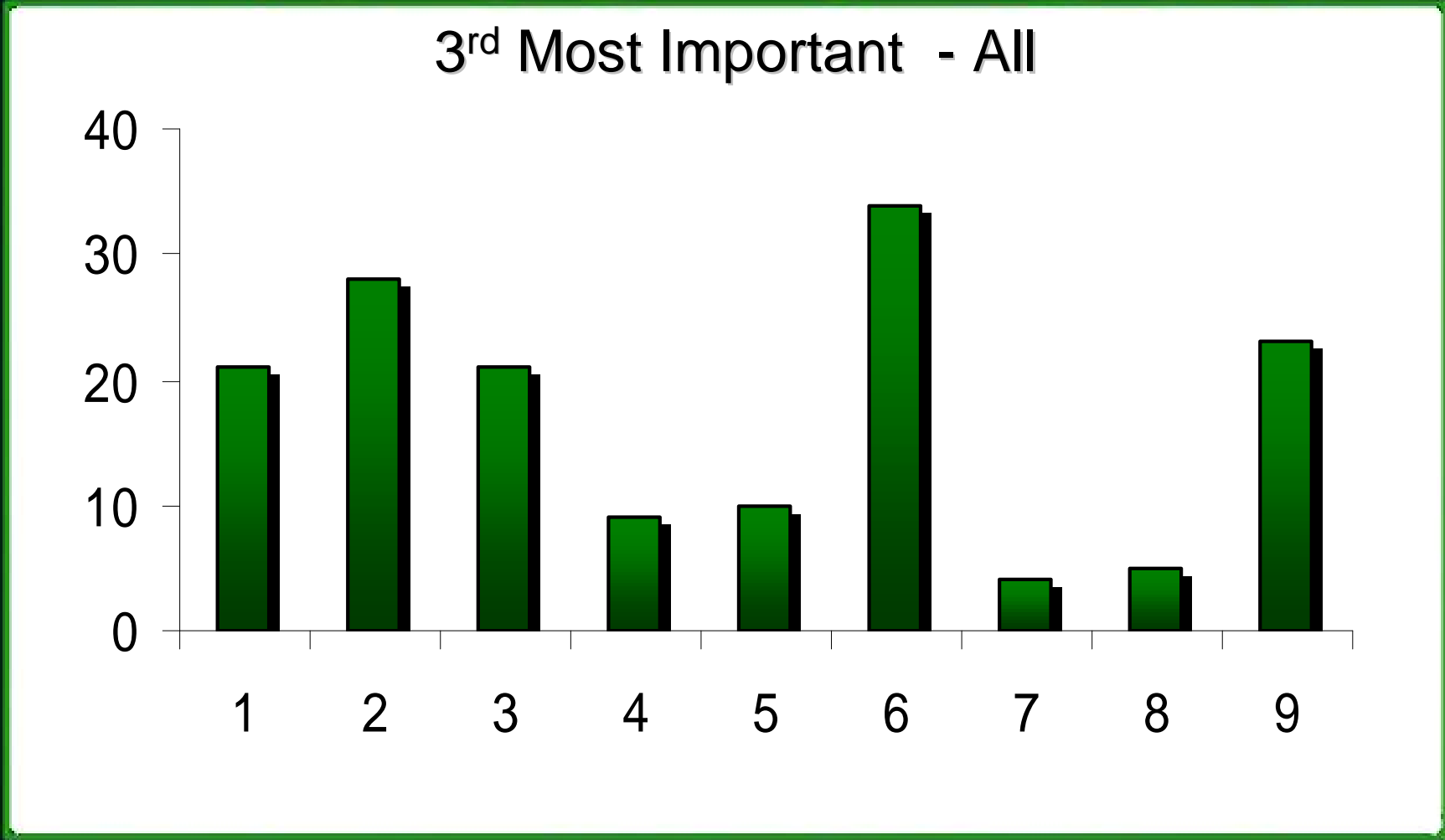
7- General Communications

8- Union Issues

9- Safety/Working Conditions

What do you feel could be done to enhance productivity?

3rd Most Important - All



1- Tools and Materials

2- Work Ethic/Motivation

3- Quality of Workforce/Training

4- Quality of Management

5- Design / Documentation

6- Project Management

7- General Communications

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9- Safety/Working Conditions