

## **TRENDS IN PUBLIC PROCUREMENT CERTIFICATION IN NORTH AMERICA**

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### **Abstract**

With the shrinking economy and global expansion of public procurement there is the need to determine what, if any, impact does certification and education have on public procurement. This study researched trends in the value of certification and education and its impact on salary. While researching reports, studies and surveys that have documented the effect on hiring for those individuals who hold certification, hold a bachelor's degree, masters degree or higher, another factor that was apparent in many of the studies involved gender differences. Findings suggest that there is indeed a trend in public procurement for requiring formal education and professional certification.

### **INTRODUCTION**

Through participation on the Governing Board of the Universal Public Purchasing Certification Council (UPPCC) and strategic planning efforts to ensure the direction of the certification programs offered through the Council were important to not only the practitioner, but to their entities as well, it became apparent that a research of trends in certification and education was necessary. The UPPCC targets state/provincial, city, county, K-12, higher education, and others in public purchasing with their Certified Professional Public Buyer (CPPB) and Certified Public Purchasing Officer (CPPO) certifications. In order to make critical decisions about the certification program requirements it was necessary to look at what

others in procurement were requiring and the impact of those requirements. These findings will be taken into consideration when reviewing and recommending changes to the current UPPCC certification requirements. The findings also support the need for additional training and education through degree programs and certification for public procurement.

## METHODS

A search for published materials regarding procurement certification was conducted via a web search. A survey instrument to the members of the National Association of State Purchasing Officials (NASPO) was created and distributed as well. This study documents findings of research and information published through reports, studies and surveys of various organizations. All organizations and authors are recognized for their efforts in documenting and reporting on certification and education in procurement and supply chain management. This research helped in determining if the direction of certification for public procurement is following the standards of certification programs in other sectors.

## RESULTS

The results of this study determined that certification and education play an important role in the advancement of procurement as a profession, not just in the public sector but across all sectors, both public and private. It showed that government procurement for state/local government is under the salary levels for federal government and the private sector. In the private sector and in federal government it appears more consideration is given for certification and education. There is also a greater incident of additional bonuses and salary increases for performance with the federal government and private industry. Currently the economy certainly plays a role in salary increases, especially for state/local governments. There was evidence that increases in the form of bonuses and pay for performance were still being given in the federal government and private sector in 2008. One hypothesis for this is that state/local governmental entities have been slower to recognize the value of higher education, certification and in general public procurement as a profession. There is evidence of the increase in certification and education requirements for individuals in public procurement. Trends show this is increasing and is likely to continue.

## DISCUSSION

The U.S. Bureau of Labor and Statistics (BLS) in its most recent *Occupational Outlook Handbook* stated that certification and education aid in career advancement. Individuals in purchasing, supply, and materials management are increasingly required to have a bachelor's degree or master's degree, and professional certification; regardless of the industry it is becoming more important. Those individuals who are seeking management positions are increasingly required to have an advanced degree in engineering, business, economics, or one of the applied sciences. More Universities and Colleges are offering coursework and degrees in procurement, materials management, and supply chain management.

The U.S. Bureau of Labor and Statistics (BLS) (2010), *Occupational Outlook Handbook*, 2010-11 Edition. *Occupational Employment Statistics (OES) survey program* also report the following information regarding salaries for purchasing managers and agents/buyers:

| <b>U.S. BUREAU OF LABOR AND STATISTICS (BLS) (2010)</b> |                   |                      |                           |                    |
|---|-------------------|----------------------|---------------------------|--------------------|
| <b>Median Annual Wages as of 5/2008</b>                 | <b>Lowest 10%</b> | <b>Middle 50%</b>    | <b>Median Annual Wage</b> | <b>Highest 10%</b> |
| Purchasing Managers                                     | <\$51,490         | \$67,370 - \$115,830 | \$89,160                  | >\$142,555         |
| Farm Product Agents/Buyers                              | <\$28,990         | \$37,930 - \$67,440  | \$49,670                  | >\$ 96,220         |
| Wholesale/Retail Agents/Buyers Excluding Farm           | <\$28,710         | \$36,460 - \$66,090  | \$48,710                  | >\$ 90,100         |
| Purchasing Agents other than above                      | <\$33,650         | \$41,670 - \$70,910  | \$53,940                  | >\$88,790          |

Median annual wages in the industries employing the largest numbers of wholesale and retail buyers, except farm products, were:

|   |          |
|---|----------|
| Management of companies and enterprises                 | \$56,400 |
| Wholesale electronic markets and agents and brokers     | 53,650   |
| Grocery and related product merchant wholesalers        | 49,770   |
| Machinery, equipment, and supplies merchant wholesalers | 46,250   |
| Grocery stores  | 35,700   |

Median annual wages in the industries employing the largest numbers of purchasing agents, except wholesale, retail, and farm products, were:

|   |          |
|---|----------|
| Federal Executive Branch  | \$73,520 |
| Aerospace product and parts manufacturing                                       | 64,220   |
| Navigational, measuring, electro medical, and control instruments manufacturing | 59,040   |
| Management of companies and enterprises   | 58,420   |
| Local government  | 51,870   |

Purchasing managers, buyers/agents receive the same benefits package as other workers, including vacations, sick leave, life and health insurance, and pension plans. In addition retail buyers often earn cash bonuses based on their performance and may receive discounts on merchandise bought from their employer.

To substantiate this, review of several studies, research papers and surveys was conducted. The results of the review are given below.

The earliest research reports reviewed were from the Center for Advanced Purchasing Studies (CAPS), National Association of Purchasing Management who has done an excellent job of documenting trends in purchasing. Five (5) reports were reviewed to gain a historical perspective of trends in purchasing. The reviews of these reports are listed in chronological order.

**Comparative Study of Purchasing Across Sectors**

The first study was by Michael G. Kolchin, Ph.D., C.P.M. for the Center for Advanced Purchasing Studies (CAPS) (1990) *Purchasing in the Industrial, Institutional, Governmental, and Retail Sectors: A Comparative Study*. This report was based on information gathered in a survey with 1,300 purchasing professionals responding, as well as interviews from individuals in the purchasing profession.

The study documented characteristics, buying processes, and concerns across all sectors of purchasing to include purchasing professionals from the National Association of Purchasing Management (NAPM), the National Association of Educational Buyers (NAEB), the National Institute of Governmental Purchasing, Inc. (NIGP), the National Contract Management Association (NCMA), Hospitals, Retailers, and Industrial.

The study revealed a difference in pay levels for purchasing professionals in private and public sectors. This is also evident today as indicated by the BLS report referenced above. The study revealed differences in the degree of formalization in the purchasing functions between public and private. This is attributed to public purchasing being bound by legal requirements of laws and regulations when expending public funds. Another difference for governmental purchasing was carrying out social policy in procurement programs.

| <b>SALARY DATA FOR 1986</b> |   |   |  |                                       |
|-----------------------------|---|---|--|---------------------------------------|
|                             | <b>Lowest</b><br><b>\$20,000 -</b><br><b>\$30,000</b> | <b>Medium</b><br><b>\$31,000 –</b><br><b>\$40,000</b> | <b>Medium-High</b><br><b>\$41,000 –</b><br><b>\$50,000</b> | <b>Highest</b><br><b>&gt;\$50.000</b> |

|         |     |     |     |     |
|---------|-----|-----|-----|-----|
| Public  | 39% | 32% | 18% | 11% |
| Private | 31% | 30% | 19% | 19% |

Another finding was only 25% of respondents were women, indicating the profession is predominantly male. This was true across the board for all sectors.

The study revealed the goal for each sector was to buy goods or services meeting the company/agency needs at the lowest possible price. It determined centralization of some purchases was a good purchasing practice regardless of the sector. Regardless of the sector, good buying strategies ultimately resulted in lower costs. Purchasing strategies are often delivered through professional training offered by purchasing associations.

An area all sectors agree on and are working towards is the professional development of their respective work forces. All sectors have come to depend on higher education and professional organizations to augment additional specific training needs and requirements. Training ultimately leads to preparing the purchasing professional for certification. To this end, it was noted that there was a common body of knowledge that was shared between all sectors.

| <b>EDUCATION</b> |                           |                      |                        |              |
|------------------|---------------------------|----------------------|------------------------|--------------|
|                  | <b>&lt; 4 Year Degree</b> | <b>4 Year Degree</b> | <b>Graduate Degree</b> | <b>Total</b> |
| Public           | 28%                       | 45%                  | 22%                    | 95%          |
| Private          | 31%                       | 51%                  | 16%                    | 98%          |

The study noted results of a 1981 NASPO revealed only four (4) states responding to the survey reported certification as an important qualification in hiring procurement officers. A survey issued by NIGP in 1989 showed only 3 percent of the jurisdictions responding to the survey had a mandatory requirement for certification. It also revealed in 1986 29% of public purchasers were certified and 27% of private sector purchasers were certified.

One difference was the increasing awareness and practice of the private sector to improve relationships with suppliers and view them as an extension of their companies. Governmental purchasing professionals have also realized the importance of good relations with suppliers, but not to the same extent of the private sector.

In summary, the goal of all buyers regardless of sector was to buy goods and services meeting the needs of their customers at the lowest possible cost and processes followed by each sector were similar. Therefore there is a common body of knowledge between all sectors,

with some modifications for certain situations. Each sector was interested in having a highly trained and qualified work force and professional organizations were called upon to deliver additional training.

This study was chosen to establish a baseline for education and certification in general and is a comparative study of purchasing organizations across all sectors. It is important to understand the knowledge and skills requirements for each sector and how education and certification make an impact.

### **Purchasing Job Analysis**

The second study reviewed was by Eugene W. Muller, Ed.D. for the Center for Advanced Purchasing Studies (CAPS) (1992) *Job Analysis Identifying the Tasks of Purchasing*. This report was based on a job analysis survey created by representatives from eight sectors of purchasing; Manufacturing (United States), U.S. Government/Prime Contractor, State and Local Government, Institutional, Services, Retail, Food, and Manufacturing (Europe). The job analysis survey was sent to approximately 4,300 purchasers evenly distributed among the eight sectors. The final sample resulted from responses of 1,541 participants.

The job analysis survey identified 69 tasks under thirteen major headings: Procurement Requests; Solicitation/Evaluation of Proposals; Supplier Analysis; Negotiation Process; Contract Execution, Implementation, and Administration; Forecasting and Strategies; Material Flow; Inventory Management; Real Estate Function; Special Considerations for Enhancing Purchasing Performance; External/Internal Relationships; Administrative Aspects of the Purchasing Department; and Personnel Issues. Respondents were asked to rate each task on a scale of 0-7 where 0= Not Part of My Job/I Never Do It, to 7= Very High Importance.

The study asked questions about demographics the results showed that 63.5% held a four year degree or higher and 93.9% had at least some college education. It also revealed that 74.7% were male and 25.3% were female.

The respondents were asked to indicate certifications obtained and the responses were:

| CERTIFICATIONS HELD BY RESPONDENTS                        |            |
|---|------------|
| Type  | Percentage |
| Certified Purchasing Manager - C.P.M.                     | 28.4%      |
| Certified Public Purchasing Official - CPPO               | 2.6%       |
| Professional Public Buyer - PPB                           | .7%        |
| Certified Associate Contracts Manager - CACM              | .6%        |
| Certified Professional Contracts Manager - CPCM           | 1.8%       |
| Certificate in Production and Inventory Management – CPIM | 4.5%       |
| Other   | .3%        |

The majority of the respondents were NAPM members (83.5%) and therefore numbers for C.P.M. certification were ultimately higher.

The study showed there was an overlap in performance of tasks between various sectors. Various sectors were compared to each other and a hierarchical cluster analysis was completed with the following results: Cluster 1, U.S. Manufacturing, Food, and Service; Cluster 2, U.S. Government and Prime Contractors; Cluster 3, State and Local Government and Institutional, and Cluster 4, Retail only. The correlation between Cluster 2 with U.S. Government and Prime Contractors possibly reflects the large percentage of prime government contractors in the sample.

This study's purpose was to determine correlation between sectors and generally showed marked agreement on the job tasks by the various sectors. Thus, there is a commonality among all sectors for job tasks. Tasks relating to storage and disposal of hazardous materials; Real Estate functions; and implementing a manufacturing resource plan (MRP II) were the only tasks that were not performed by a majority of the respondents.

Therefore, the conclusion is the majority of job tasks are performed by all sectors. This study also helps to establish a baseline for trends in certification for public and private. The report includes information on all certifications held by the respondents for various certifying bodies. There is a definite cross over of membership between organizations and some individuals hold certification from more than one certifying body.

### **Purchasing Education and Training Requirements and Resources**

The third study reviewed was by Michael G Kolchin, D.B.A., C.P.M. and Larry Giunipero, Ph.D., C.P.M. for the Center for Advanced Purchasing Studies (CAPS) (1993) *Purchasing Education and Training Requirements and Resources*. This study was commissioned as a result of a 1990 Executive Purchasing Roundtable for the Center for Advanced Purchasing Studies (CAPS). The goal of the study

was to answer four questions: 1) How is the purchasing function changing as we approach the 21<sup>st</sup> Century? 2) How will these changes in the function effect the body of knowledge for the purchasing discipline? 3) How will these changes effect education and training needs of purchasing professionals in the year 2000? 4) What resources are available to fill these needs?

A twelve page questionnaire was developed after interviewing 25 top purchasing professionals and sent to 700 purchasing executives of large firms within the United States. There were 131 completed responses analyzed for the study, resulting in a response rate of 18.7%. This study allowed the authors to look at changes between what was identified in 1992 against projections for 2000.

| DEMOGRAPHICS                                |           | EDUCATION    |   | DEGREE REQUIREMENTS                                    |
|---|-----------|--------------|---|--|
| Title                                       | % Holding | Degree       | %   |  |
| Vice President                              | 32%       | Business     | 50%   | 1992 Bachelors or Masters – 78%                        |
| Director                                    | 34%       | Technical    | 40%   | Future Bachelors or Masters – 94%                      |
| Manager                                     | 34%       | Liberal Arts | 5%  | Minimum Job Requirements for Future – Bachelors Degree |
|   |           | Combination  | 5%  |  |
| PROFESSIONAL CERTIFICATION                  |           |              | CAREER DEVELOPMENT PROGRAMS (FORMAL TRAINING) |  |
| Scale – 1=least desirable; 5=most desirable |           |              |   |  |
|   |           |              | Current (1992) 26% had Formal Training        |  |
| 90% rated certification at a 3 or >         |           |              | Future (2000) 75% will have Formal Training   |  |
| Mean Rating = 3.2                           |           |              |   |  |

| ORGANIZATIONAL STRUCTURE |      |      |                    |
|--------------------------|------|------|--------------------|
|                          | 1986 | 1992 | Projected for 2000 |
| Centralized              | 28%  | 32%  | 32%                |
| Decentralized            | 13%  | 17%  | 17%                |
| Combination              | 59%  | 47&  | 47&                |
|                          |      |      |                    |

In the survey respondents were asked to identify the top ten trends from a list of 29 previously identified by researchers.

| TOP TEN TRENDS   |  |
|--|--|
| Fewer sources of supply will be used                               | Design engineers and buyers will be part of sourcing teams |
| Purchasers will be more concerned with final customer satisfaction | Global sourcing will increase                              |
| Purchasers will manage supplier relations                          | Order releasing will be relegated to users                 |
| Purchasers will drive shorter cycle times                          | Teams will make sourcing decisions                         |
| Supply chain management will receive greater emphasis              | Single sourcing will increase                              |

These trends were further analyzed and categorized in one of four major categories: teaming; supply base management issues; professional development; and internal operations.



Interviews conducted by the authors revealed similar results “the purchasing functions will consist of fewer people managing fewer suppliers and will emphasize final customer satisfaction”.

Respondents to the survey were asked whether they thought the purchasing function would still be known as “purchasing” in 2000 and the answer was “no”. There was almost a 2-to-1 margin indicating that purchasing’s title would change. There were three names that were cited most often; Supply Management, Sourcing Management, and Logistics with Supply Management being the most popular (40%).

The study also asked respondents to choose the top ten skills that would be critical for purchasing professionals in 2000.

| TOP TEN SKILLS NECESSARY FOR 2000 |                            |
|-----------------------------------|----------------------------|
| Interpersonal communication       | Managing change            |
| Customer focus                    | Conflict resolution        |
| Ability to make decisions         | Problem solving            |
| Negotiation                       | Influencing and persuasion |
| Analytical                        | Computer literacy          |

The top eight skills currently perceived as important were also ranked in the future top ten with leadership and tactfulness falling out of the top ten in the future and managing change and computer literacy making it into the top ten.

The study determined these skills could be grouped into three categories; enterprise (having a good understanding of the business), interpersonal, and technical and the same grouping could be used for the identification of the top ten knowledge areas.

The respondents to the survey identified the top ten knowledge areas, or “body of knowledge” necessary as the following:

| TOP TEN KNOWLEDGE AREAS FOR 2000 |                             |
|----------------------------------|-----------------------------|
| Total Quality Management         | Price/Cost Analysis         |
| Cost of Poor Quality             | Source Development          |
| Supplier Relations               | Quality Assurance           |
| Analysis of Suppliers            | Supply Chain Management     |
| Lowest Total Cost                | Competitive Market Analysis |

In order to determine if there was a gap in the training that was currently being offered and what would be necessary for the future respondents were asked to identify those courses that were currently being offered. The response was: negotiations/ethics; basics for purchasers; and total quality management. By looking at the body of knowledge above, one could assess the gaps rather easily. Further

analysis of the responses received above indicated that needs for skills and abilities for the future could be classified into one of three basic groups: enterprise; interpersonal; and technical. The survey also asked respondents to identify the top ten subjects that should be provided from a list of 43.

| TOP TEN SUBJECTS TO BE OFFERED IN TRAINING FOR 2000 |                                   |
|---|-----------------------------------|
| Total Cost Analysis                                 | Quality Techniques                |
| Negotiation Strategies and Techniques               | Purchasing Strategy and Planning  |
| Supplier Partnership Management                     | Price/Cost Analysis               |
| Ethical Conduct                                     | Electronic Data Interchange (EDI) |
| Supplier Evaluation                                 | Interpersonal Communication       |

Three subjects currently being covered were identified as not being as important in the future was: purchasing policies and procedures, legal aspects, and competitive bid analysis.

The survey asked respondents where individuals could go for training needs identified were half available internally and half from outside sources such as professional associations, consultants, colleges and universities. Respondents identified the major role of colleges and universities to be providing students with basic knowledge and understanding of purchasing, and a major in the field of materials management.

The study identified a changing role in the purchasing function that aligned with changing requirements for education and training. The major shifts or changes were identified as: the structure of the function moving more towards teams; less emphasis on transactions and greater use of technology; a move towards partnering; and global sourcing. Additional training requirements developed and delivered through professional organizations will be necessary in order to assist purchasing professionals in developing the appropriate skills necessary to succeed.

The result of the study identified 24 conclusions, however, for purposes of this review regarding certification and education, only four will be mentioned here:

**Number three** - the importance of having a formal education to enter the purchasing profession in the future. **Number four** - attaining C.P.M. certification as being desirable. **Number twenty** - the role of colleges and universities for providing business students a general understanding of purchasing, and to offer a major in purchasing/materials management. **Number twenty two** - the purchasing function may be termed Supply Management in the future. These are identified because of the future impact on purchasing for the public and private sectors.

The summary of the study identified the significant changes in the purchasing function would require education and training for purchasing professionals to be continually updated. While these results are not specific to public procurement, they have an effect on the profession as a whole. The focus on identifying current skills and knowledge needs and identification of projected changes for the future will have a direct impact on certification programs, regardless of the certifying body. It is the beginning for documenting a major shift between professional organizations.

### **Job Analysis for State/Local Governments and Institutional Purchasing**

The fourth study reviewed was by Eugene W. Muller, Ed.D. for the Center for Advanced Purchasing Studies (CAPS) (1994) *Job Analysis Comparing the Tasks in State/Local Government Purchasing and Institutional Purchasing*. The goal of the study was to look at the tasks required by State and Local Governments and Institutions to determine whether there were significant similarities or differences. The sectors included in the study were State Government Offices; County Government Offices; Municipal Government Offices; Public Authorities, Boards, or Commissions; Public Schools or School Districts; Public Colleges or Universities; Private Colleges or Universities; and Public and Private Hospitals.

This study identified the methods and results of a job analysis survey conducted in 1990 by the National Association of Purchasing Management (NAPM). This job analysis survey was the basis for the study conducted by Muller in 1992 previously mentioned. As indicated, Clusters were determined for the various purchasing sectors, and State and Local Government and Institutions were identified as residing in Cluster three.

As a result of the study and subsequent recommendations, NAPM began to develop a version of their FOCUS, a purchasing training needs assessment program and test program, specifically for buyers in State/Local Government and Institutional sectors. Purchasing managers in these sectors expressed a desire to compare the workforce of sectors identified in the clusters with each other as opposed to all purchasers in general. The needs assessment tool would determine important tasks of the purchasing workforce and determine an individual's knowledge of tasks in relation to a group of outside purchasers and make training recommendations based on the results. For this reason a separate job analysis was conducted using

the same job analysis techniques of the 1990 study for these two sectors.

A group of 17 subject matter experts from nine sectors identified above were contacted and asked to participate in developing a list of purchasing tasks applicable to their organizations. Preliminary job tasks or duties were identified from the previous study. Those that were identified as having no relation were omitted. The subject matter experts identified whether or not the tasks or duties were performed by their organization. They were allowed to modify the task or duty if it would result in a better description of what was required resulting in some of the language being modified to more accurately reflect terms used in State/Local Government and Institutional sectors. A final list of 40 tasks was used for a new job analysis survey to be sent to a larger group in these two sectors.

The rating scores the respondents would use were the same as the previous study and were ranked from 0 to 7 with 0 = Not Part of My Job/I Never Do It, to 7 = Very High Importance. Demographic data was also incorporated into the study and requested from the respondents, just as in the previous study. There were 639 purchasing professionals who participated in this study.

| GENDER DEMOGRAPHICS |       |       | EDUCATION DEMOGRAPHICS |       |       |
|---------------------|-------|-------|------------------------|-------|-------|
|                     | 1990  | 1994  |                        | 1990  | 1994  |
| Male                | 74.4% | 61.6% | 4 yr degree or >       | 63.5% | 65.8% |
| Female              | 25.6% | 38.4% | Some College           | 93.9% | 94.2% |

| ASSOCIATIONAL MEMBERSHIP DEMOGRAPHICS |       |             |       |             |       |
|---------------------------------------|-------|-------------|-------|-------------|-------|
| NAPM Member                           | 80.3% | NIGP Member | 32.4% | NAEP Member | 27.2% |

The results of this study showed a high degree of overlap within the two sectors. It showed that 34 of the 40 tasks were performed by at least 50% of the respondents. Only managing central printing operations was not applicable to the majority of the respondents in any sector. The study identified 39 tasks that were performed by a majority of the respondents. For these 96.2% of the sectors reported having a majority of the respondents performing the task. This revealed more of an overlap than the original study conducted in 1990.

The results of the study confirmed the earlier findings that purchasing functions differ very little from State/Local Government and the Institutional sector. This study links two public sectors of procurement and shows commonalities within these two sectors.

## **Purchasing Education and Training**

The fifth study was issued by the Center for Advanced Purchasing Studies (CAPS) and review was conducted by Larry Giunipero, Ph.D., C.P.M., Professor, Florida State University and Robert B. Handfield, Ph.D., Bank of America University Distinguished Professor, North Carolina State University for the Center for Advanced Purchasing Studies (CAPS) (2004) *Purchasing Education and Training II*. This study was conducted to update previous studies related to purchasing education and training, and to answer several questions.

Questions stated in the study that are of particular interest to this review are: Have major trends, skills and knowledge of procurement changed? What changes are needed in purchasing education and training to support new skills that may be identified? What are key course requirements for training and education for current workforce and those being recruited? What sources are delivering training?

The study identified several important factors: that a decade ago the concept of Supply Chain Management was new; computer literacy as it relates to the use of e-procurement and expanded use of the Internet was identified as a new skill; and purchasing/supply management education and training is critical to the success of the organization and growth of the profession.

Several major changes were identified that are helping shape supply management into what it is today: strategic supplier relationships; expanded use of the Internet to include e-sourcing and e-procurement; reduction in staff; strategic goals related to cost and value; evolution of supply chain management; shifting from tactical purchasing to strategic supply management. There was increased evidence that the Chief Procurement Officers are being chosen from outside the purchasing and supply field to promote different objectives and outcomes and that these CPO's are hired for a short time with a definite mission to implement change in a short period of time.

The study was implemented to identify and determine what changes need to be made for training through 2010 and included a review of past studies from 1993 forward, conducting focus groups, and implementation of an on-line survey. These efforts would culminate in a summary of findings and conclusions.

The focus is education and training requirements; however, an analysis of changes in the field to identify new skills and knowledge

required was critical to the outcome of the study. Through identification of the new skills and knowledge requirements education and training requirements can be developed.

The study looked at trends effecting changes in skills and knowledge requirements; what education and training programs are currently being offered and by whom; what training techniques best facilitate learning for new skills and knowledge requirements; and what role colleges and universities and professional organizations play in education and training. These trends were assessed for the next five to ten years.

There were ten issues that were constantly discussed by the focus group and respondents to the questionnaire, while analyzing past studies.

| <b>TEN REOCCURRING ISSUES</b>  |  |
|--|--|
| Modest gains in training programs over the past decade.                                | Ethics has become very important in purchasing and supply chain management.      |
| Career development for purchasing and supply management personnel needs more emphasis. | Supplier relationship management has become a critical knowledge area.           |
| Technology and its impact on purchasing training.                                      | Pressure to reduce costs has escalated into a major part of the purchaser's job. |
| Completing gap analysis for each individual to determine training needs.               | Tactical buying will be automated.   |
| Identification of key skills needed for success in purchasing and supply management.   | Pressure to reduce supply base has changed into management of supply base.       |

There were many significant changes noted from 1993 to 2003. In 1993 the forecast was that the number one trend was that fewer sources of supply would be used by 2000 while the trend has actually changed to managing the supply base. Another significant change in forecasts was that the fifth ranked trend of single sourcing increasing actually dropped to 35<sup>th</sup> in 2003. The study also showed that the top five trends in 2003 were not listed in the trends identified in 1993 as being important in 2000.

| <b>MAJOR TRENDS</b>                |                                 |
|------------------------------------|---------------------------------|
| Pressure to reduce costs           | Increase global sourcing        |
| Automating the purchasing function | Shorter cycle times             |
| Controlling inventory              | Seeking the ideal supplier base |
| Managing supplier relationships    |                                 |

| <b>MAJOR CRITICAL SKILLS IDENTIFIED</b> |                             |
|---|-----------------------------|
| Ethics (rated number one)               | Contract writing            |
| Communication                           | Managing change             |
| Negotiation                             | Managing supply base        |
| Problem solving                         | Managing risks              |
| Decision making                         | Interpersonal communication |

|                    |                            |
|--------------------|----------------------------|
| Working in teams   | Influencing and persuasion |
| Leadership         | Conflict resolution        |
| Strategic thinking | Customer focus             |

| MAJOR KNOWLEDGE AREAS IDENTIFIED            |                                  |
|---|----------------------------------|
| Analysis of suppliers (rated as number one) | Supplier relationship management |
| Total cost analysis                         | Commodity expertise              |
| Pricing techniques                          | Supplier evaluation              |
| Purchasing strategies and plans             |                                  |

| KNOWLEDGE AREAS IMPORTANT TO THE FUTURE |                                    |
|---|------------------------------------|
| Supplier relationship management        | Price/cost analysis                |
| Total cost analysis                     | Outsourcing                        |
| Purchasing strategies                   | Total quality management/Six Sigma |
| Analysis of suppliers                   | Make versus buy                    |
| Competitive market analysis             | Value chain                        |
| Supply chain management                 | Project Management                 |
| Supplier evaluation                     |                                    |

In the area of purchasing and supply management training it was noted that the person ultimately responsible for training was at the level of the manager, director, or vice president. Thirty-two percent of the firms responding had implemented purchasing training councils and was expected to increase to 67% in the future.

| EDUCATIONAL REQUIREMENTS |  |
|--------------------------|--|
| Minimum                  | Bachelors Degree                                       |
| Desired                  | Bachelors Degree in Purchasing/Supply Chain Management |
| Desired                  | M.B.A.   |
| Desired                  | Bachelors Degree in Technical field with M.B.A.        |
| Desired Certification    | C.P.M.   |

The current status of the purchasing organization was seen as moderate with an increase to high in the future. Purchasing training will have an effect on meeting requirements with a moderate priority for training now and a higher priority seen in the future. On average 67% of individuals receive some training annually which is expected to increase to 87% in the future.

Respondents indicated that more than 50% currently participate in training via the Internet, with that percentage increasing to 76% in the future. While training via the Internet is expanding, it is not anticipated that it will completely eliminated classroom training, and that classroom training will still be the preferred method for delivery of training.

The three most popular training classes were noted as negotiations; ethical conduct; and legal/UCC. Other courses identified as being important were TQM/Six Sigma; basics for purchasers; supply chain management; strategic cost management; supplier relationships management and value stream/process analysis.

Sources for training were 65% internal, 35% external with a dependency on professional organizations for the external training. Colleges and Universities will be called upon to provide students a basic understanding of purchasing and assisting with and keeping abreast of research in the field of purchasing/supply chain management.

There were fifteen trends in purchasing and supply management identified. For purposes of this review the only one that had a significant effect on training and education was: Increased use of alternative training methods via distance education/learning.

| <b>TRAINING AND EDUCATION NEEDS FOR CORE SKILLS</b> |   |
|---|---|
| Team Building                                       | Relationship Management Skills          |
| Strategic Planning Skills                           | Legal Issues                            |
| Interpersonal Communication Skills                  | Contract Writing                        |
| Technical Skills                                    | Risk Mitigation in a Global Environment |
| Broader Financial Skills                            |   |

This study has identified trends that suggest the need for purchasing training to continue to grow, with an emphasis on distance learning. It was also determined that purchasing/supply management is developing into a highly specialized occupational area with special skills and technical requirements. The results of this study also show trends shifting from purchasing to supply chain management for the private sector. This is also evident through the name change of the National Association of Purchasing Management to the Institute of Supply Management in 2002.

Where it was once documented that the knowledge and skills necessary for public and private crossed boundaries; there is now a definite shift in the private industry to supply chain management, especially with identification of different skills and knowledge requirements such as TQM/Six Sigma; supply chain management; strategic cost management; supplier relationships management and value stream/process analysis. Other skills and knowledge identified are similar to those for public purchasing; however the new skills and knowledge requirements identified here are significant for the shift in trends in certification.

### **IMPACT OF CERTIFICATION AND EDUCATION ON SALARY**

The information from papers, articles and surveys that will be discussed next will look at the trends in certification and education and their effect on certification in general. The salary studies will



cover several professional organizations that recognize the value of certification and education.

### **Public Sector Salary Study**

The first article to be discussed was issued by the Journal of Public Procurement, Volume 4, Issue 1, pp. 1-21 entitled *Drivers of Compensation of Heads of Procurement Units, Supervisors, and Materials Managers in the Public Sector* by Mohamad G Alkadry, Ph.D, Assistant Professor, Department of Public Administration, West Virginia University. The article looks at several factors that have an effect on salaries; however for this review the only factors discussed will be gender, certification and education. These elements are also found in other published materials and will be reported here. There are many drivers of compensation in public procurement and these elements are different for public sector and the private sector.

Two important reasons for conducting compensation studies are: increasing the ability of agencies to know what the competitive compensation is when trying to recruit quality managers, and providing purchasing managers with a benchmark of their peers. These benchmarks can be used for leverage in seeking to secure a more competitive salary range for agencies that may not be within a competitive range.

The drivers for salary in private industry are very different from those in public. While the surveys are conducted in a similar manner the drivers of compensation are not the same. Several different sectors have been studied that have the same job duties indicating other factors determine salary levels.

In private industry one of the major drivers is the sales volume or amount of spend for a company, the larger the company the greater potential for a higher salary. Public organizations do not have this as a driver, the best measure would be annual budget or dollars expended by the public procurement organization.

One area that can have an effect on salary at the time of hire is the leverage a job applicant has due to years of experience, education, and certification. This opportunity has the biggest impact at the time of hire. There are three areas where years of experience could have an impact: non-purchasing experience; purchasing experience; and number of years with a current employer.

The publication notes that in spite of laws that mandate equity in pay among men and women a disparity still exists. This was apparent in

other publications reviewed for both public and private. There were three conditions noted to cause the disparity: organizational barriers for women; human capital barriers when women compete for management and executive positions; and social and cultural barriers and breaking through male-dominant jobs in an organization.

When looking at the effects of certification and education in the purchasing profession some publications have identified these as drivers having an effect, some identify it as having no effect. Because of conflicting reports this may lead one to determine there are no conclusive results to determine if certification and education have a direct effect on salary.

The information reviewed consisted of a survey that was issued by the National Institute of Governmental Purchasing, Inc. (NIGP) to 6,747 of its members in 2002. NIGP's membership is predominantly public procurement officials. NIGP was selected to distribute the survey since there is no formal list of all public procurement units in the U.S. and NIGP's membership list was the closest thing to a comprehensive list. There were 1,673 responses received for a response rate of 26%. From this population only those who were heads of procurement units or those who were managers/supervisors were studied and equaled 862 respondents.

The average salary reported for heads of procurement units was \$67,378 and for managers/supervisors it was \$55,201. The average number of employees supervised by procurement heads was 17 and for managers/supervisors it was 10. Years of experience averaged 18 for procurement heads and 17 for managers/supervisors. This is consistent with the BLS 2010 *Occupational Outlook Handbook* reported results.

An analysis of variance (ANOVA) was used to determine if there were gender differences and to determine if there were differences for those with certification. The results showed a statistically significant difference between males and females for both the purchasing heads and manager/supervisor positions.

| <b>GENDER DIFFERENCES</b>      |                         |                    |
|--------------------------------|-------------------------|--------------------|
|                                | Head of Purchasing Unit | Manager/Supervisor |
| Male Average Salary            | \$70,741                | \$58,994           |
| Female Average Salary          | \$61,164                | \$51,466           |
| Difference in Average Salaries | \$ 9,577                | \$ 7,528           |

All other variables such as age, education, number of subordinates, and years experience were equal. Responses for managers/supervisors were almost equal for both male (128) and

female (130), but not for male (186) and female (100) heads of purchasing units. This may be an indication that more men than women are hired as heads of purchasing units.

Gender compensation had the largest effect on managers, supervisors and heads of purchasing units. Other factors having an effect on compensation were budget size; supervisory responsibilities; authority level; years with current employer; years of experience in purchasing; cost of living and labor market competitiveness; median housing value; median household income; and education. Of particular interest is education; it had the largest effect on compensation of managers and supervisors and the second largest effect for heads of purchasing units.

The variance means test used to determine the impact of certification on salary showed an insignificant difference for those who held a certification and those who did not for both heads of purchasing units and managers/supervisors.

This report concludes that gender has the largest negative impact for women, while education and authority level have a positive impact, and certification does not have an impact.

**Contract Management Salary Survey**

The National Contract Management Association conducts an annual salary survey and the latest survey available was for 2008. An Executive Summary is posted on their web site at <http://ncmahq.org/files/PDFs/salariesurvey2008ExecSummary.pdf>. The following is a narrative of the salary survey and Executive Summary.

The survey was sent out to individuals in NCMA’s database that included members, prospects and others. The return rate for the survey was 9.45% for responses that were determined to be allowable in the survey results. Of the responses received, 56% were from women and 44% were from men. This is a shift from previous reports where there were more men than women who responded. The largest group of respondents was government contractors at 56% and the federal government was next at 23%.

| <b>EDUCATION AND CERTIFICATION</b>                                  |     |
|---|-----|
| Bachelors Degree or Higher  | 86% |
| Various Certifications Held   | 47% |
| Defense Acquisition Workforce Improvement Act (DAWIA) Certification | 25% |

| SALARY INFORMATION  |           |                                     |           |             |            |           |
|---|-----------|-------------------------------------|-----------|-------------|------------|-----------|
|   | Average   | w/Bachelors                         | w/Masters | w/Doctorate | Men        | Women     |
| Low   | \$ 60,000 |                                     |           |             |            |           |
| Median  | \$ 90,000 | \$102,300                           | \$128,600 | \$139,600   | ~\$100,000 | ~\$80,000 |
| High  | \$100,000 |                                     |           |             |            |           |
| Those with No Certification made ~ \$7,000 less than the median salary of \$90,000 (\$83,000) |           |                                     |           |             |            |           |
| Bonuses   |           | 64% Receive - Average Amt. \$25,000 |           |             |            |           |
| Tuition Assistance  |           | 72% Receive                         |           |             |            |           |

The Executive Summary gives general statistics without any comparative data. While the information provided does not make any assumptions, the most interesting observations are: those involved in federal procurement have much higher salaries than others in governmental procurement at the state and local levels, and the apparent gender disparity mirrors what is seen at the state and local levels of public procurement and in the BLS 2010 *Occupational Outlook Handbook*. While there may be other factors that could affect this, it follows trends noted in other publications. Another area of particular interest is the increase in salary as it related to education, it is indicative of information reported at the state and local public procurement level.

### **Purchasing Magazine's 28<sup>th</sup> Annual Salary Survey**

*Purchasing Magazine* each year publishes an annual salary survey and the 2008 salary survey was available at [http://www.purchasing.com/article/print/227911-Salary\\_Survey.php](http://www.purchasing.com/article/print/227911-Salary_Survey.php). The following is a narrative of the article written by Susan Avery that was published December 11, 2008.

| SALARY INFORMATION 2008                                   |           | WITH HIGHER EDUCATION      |           |
|---|-----------|----------------------------|-----------|
| Average Compensation                                      | \$ 88,206 | Average w/No Degree        | \$67,794  |
| Indirect Spend Category                                   | \$101,962 | With Bachelors Degree      | \$94,555  |
| Sourcing Chemicals  | \$ 96,713 | With Liberal Arts Degree   | \$88,939  |
| Sourcing Metals   | \$ 90,468 | With Business Degree       | \$86,939  |
| Sourcing Transportation/Logistics                         | \$ 95,804 | With Technical Degree      | \$102,578 |
| (Average 4% Salary Increase in 2008)                      |           | With MBA                   | \$115,224 |
| (70% made < \$100,000)                                    |           | With Other Graduate Degree | \$ 99,245 |
| (64% received bonuses w/ average of 14% or median of 10%) |           |                            |           |

Companies looked for purchasing professionals with strong negotiation skills. Companies are willing to pay more for purchases with degrees in supply chain management, purchasing operations, or logistics.

| <b>SALARY INFORMATION BY WORK EXPERIENCE AND CERTIFICATION</b> |                |                  |                |
|--|----------------|------------------|----------------|
| Work Experience  | Average Salary | Certification    | Average Salary |
| > 25 Years   | \$100,371      | C.P.M.           | \$ 99,539      |
| 16-25 Years  | \$ 95,506      | C.P.I.M.         | \$ 96,361      |
| 11-15 Years  | \$ 87,533      | No Certification | \$ 82,343      |
| 7-10 Years   | \$ 79,695      |                  |                |
| 4-6 Years  | \$ 73,535      |                  |                |
| 3 Years or Less  | \$ 73,410      |                  |                |

This is an indication of an increase in the recognition of the value of education, years of experience and certification.

| <b>SALARY INFORMATION BY GENDER</b> |              |                |
|-------------------------------------|--------------|----------------|
| Gender                              | % Responding | Average Salary |
| Male                                | 69%          | \$ 95,427      |
| Female                              | 31%          | \$ 71,951      |
| <b>Salary Difference</b>            |              | \$23,476       |

The same trend is identified as in two previous reports discussed above, with this margin of difference being the largest. There weren't any other variables identified that would make a difference, so it appears the difference is a disparity by gender.

The information available in this survey gives general statistics without comparative data. The information provided does not make any assumptions against other variables that may have an impact on salary in a particular category. The study shows that salaries in the federal government sector are much higher salaries than those in governmental procurement at the state and local levels.

### ***Purchasing Magazine's 29<sup>th</sup> Annual Salary Survey***

*Purchasing Magazine* e-mailed its survey to a cross section of readers from various industries in September of 2009 and 1,979 responses were received.

In this year's survey the results showed compensation rose on average of 6.9% to \$94,317; up from \$88, 206 reported in 2008. The report sites top management's recognition of purchasing's leadership role in controlling costs and initiating activities that help the bottom line. It sites a survey of members conducted by the Institute of Supply Management that also showed a salary climb of 6.8%. This is very notable, especially in a climate where the unemployment rate has exceeded 10% in many areas.

Average salaries of \$109,687 are reported for process industries, and \$107,750 for energy/mining industries. It also reported that purchasing professionals in the manufacturing industry saw annual salaries decline; those for wholesale/durable goods declined by \$4,042 and those in the automotive/transportation industry declined

by \$1,830. This is consistent with the BLS 2010 *Occupational Outlook Handbook*.

In 2009 a slightly smaller percentage of respondents saw bonuses, down 2% from last year at 62%; however the percentage of bonus received still remained at 14% of respondents' annual salary.

| SALARY INFORMATION BY GENDER |              |                  |
|------------------------------|--------------|------------------|
| Gender                       | % Responding | Average Salary   |
| Male                         | 70%          | \$ 102,031       |
| Female                       | 30%          | \$ 76,144        |
| <b>Salary Difference</b>     |              | <b>\$ 25,887</b> |

| SALARY INFORMATION EDUCATION AND CERTIFICATION |                |                  |                |
|--|----------------|------------------|----------------|
| Higher Education                               | Average Salary | Certification    | Average Salary |
| Bachelor Degree                                | \$ 101,781     | C.P.M.           | \$ 106,157     |
| MBA  | \$ 124,210     | No Certification | \$ 90,633      |

The title of the article states "Procurement's good fortune continues" and is evident by the results for this year's survey as compared to last year's. The area that is of greatest concern is the continuing disparity between salaries for men and women with the gap widening between 2008 and 2009 for the two studies reported by *Purchasing Magazine*.

The survey shows salaries for individuals with a bachelor's degree or better and, individuals with certification continue to enjoy salaries that are above those who do not have a degree or certification, this is an upward trend. Senior management recognizes the value of purchasing professionals and what they bring to the organization through negotiation and other skills that allow them to make a difference in the organization's bottom line. This is especially important in today's economy when many individuals are worried about continued employment.

### **2009 PMAC/*Purchasingb2/MM&D* Salary Survey**

The Purchasing Management Association of Canada (PMAC)/*Purchasingb2b/MM&D* Salary Survey was sponsored by MERX and was sent to PMAC's membership database and the circulation lists of *Purchasingb2b* and *MM&D* and 1,929 responses were received. The survey results are posted on PMAC's web site and can be found at [http://www.pmac.ca/PDF/Salary\\_Survey\\_2009\\_en.pdf](http://www.pmac.ca/PDF/Salary_Survey_2009_en.pdf). An article published by *Purchasingb2b* Magazine that recapped the results of the study can be found at the following web address: [http://www.pmac.ca/PDF/salary\\_survey\\_article\\_2009\\_en.pdf](http://www.pmac.ca/PDF/salary_survey_article_2009_en.pdf). This study identifies the same trends we have seen in the previous studies.

In this study 56% of the respondents indicated that their salaries had increased in 2009 with the average increase being 3.1%. While this increase is not as high as the 6.9% reported in *Purchasing Magazine*, it still shows an overall increase. The report did however ask if respondent's employment situation had changed in the past year and five respondents noted they were laid off; four respondents had their hours reduced; four reported new job sharing; three reported they had a new role because their old position was eliminated; and one reported that their company had closed down.

| SALARY VARIANCES  |           |           |
|---|-----------|-----------|
|   | 2008      | 2009      |
| Average Salary Manufacturing  | \$71,744  | \$ 71,600 |
| Avg. Salary Education Sector  | \$71,445  | \$ 71,300 |
| Avg. Salary Government  | \$ 67,845 | \$ 72,500 |
| Avg. Salary Supply Chain Exec.  |           | \$121,400 |
| Avg. Salary Purchasing/Procurement  |           | \$ 72,500 |
| (71% of Respondents said there was a greater appreciation for their skills/experience by employers) |           |           |

This is definitely and indicator that the decline in the economy has had an effect on salaries for procurement and supply chain management.

| HIGHER EDUCATION DEMOGRAPHICS   |     |
|---|-----|
| Respondents with University Degree  | 33% |
| Respondents with some University Coursework   | 22% |
| Respondents with a College Diploma  | 21% |
| Respondents with an MBA   | 5%  |
| Respondents with a Masters or Ph.D.   | 2%  |
| Respondents with a Trade or Technical Diploma   | 6%  |
| Percent of respondents with a General Business Degree or Diploma<br>29%                       |     |
| Percent of Respondents with a Degree or Diploma in Procurement/Supply Chain./Logistics<br>11% |     |

This indicates that more Colleges and Universities are offering degrees in procurement and supply chain logistics, not only in the United States, but in Canada as well.

In the article Lisa Wichmann asks "Does education make a difference?", the observation: 20 years ago the answer would most probably have been "no"; however survey results consistently show higher earnings based on post-secondary education. Those that hold an MBA have the highest salary at \$103,100 while those with a university degree earn \$78,600. Those with only "some" university courses average \$81,200; this may be due to individuals having

specialized skills such as a second language or some other subject matter expertise. Even though today education is commanding higher salaries, many supply chain managers who have been in the field for years, joining the field right after high school, have done exceedingly well. This trend is no longer the case as is documented by the number of individuals who now have degrees or diplomas.

| <b>CERTIFICATION DEMOGRAPHICS</b>            |          |
|--|----------|
| Respondents not holding a C.P.P. Designation | \$73,450 |
| Respondents holding a C.P.P. Designation     | \$89,300 |
| Respondents holding a C.P.M. Designation     | \$90,700 |
| Respondents holding a CPPO Certification     | \$84,400 |
| Respondents holding a CPPB Certification     | \$71,200 |

This indicates those with certification/designations earn more than those that don't, and shows that public purchasers still make less than private industry. Respondents indicated in order to get ahead in their job it was necessary to have a professional designation, 72% agreed.

| <b>GENDER DEMOGRAPHICS</b> |               |                     |                     |
|----------------------------|---------------|---------------------|---------------------|
|                            | % Respondents | 2008 Average Salary | 2009 Average Salary |
| Men                        | 60%           | \$81,962            | \$83,600            |
| Women                      | 40%           | \$67,814            | \$69,900            |
| Difference                 |               | \$14,148            | \$13,700            |

This study reported gender trend is not gender-neutral and this disparity is noted year after year, one of the longest prevailing trends in the industry and that the gap is not closing. It suggests a closer study by organizations, associations and councils be conducted to address the disparity.

The highest priority currently is cost control, with 54% rating it as the number one issue now and for the year ahead. Other issues were supplier relationship management; reorganization; risk management; forecasting; inventory visibility; and technology upgrade.

In summary, this salary study shows the same trends as those previously discussed; an increase in requirements for education, certification and a disparity among salaries of men and women in the profession. The trends are the same in Canada and the United States.

### **CPPO/ CPPB & Education Output Surveys**

Two studies were conducted by Mohamad G. Alkadry, Ph.D., previously Assistant Professor, Department of Public Administration, West Virginia University; currently Associate Professor of Urban Studies & Public Administration, College of Business and Public Administration, Old Dominion University, on behalf of NIGP. One study was conducted in 2007 and one in 2009. Respondents answered questions regarding certification and education.



In September of 2007 NIGP sent out 6,500 on-line surveys to random members of their membership list. There were 2,205 respondents to the survey for a response rate of 34%. The results show the total percentage for each job classification with education and/or certification. An abbreviation of the results is as follows:

| TITLE OF POSITION  | CPPO & 4 Year Degree & Higher (%) | CPPO & 2 Year Degree & Higher (%) | 4 Year Degree And Higher (%) | 2 Year Degree And Higher (%) |
|--|-----------------------------------|-----------------------------------|------------------------------|------------------------------|
| Director, Materials Management (Chief Procurement Officer)     | 5%                                | 13%                               | 63%                          | 76%                          |
| Director, Purchasing and XX (Chief Procurement Officer and XX) | 18%                               | 21%                               | 78%                          | 84%                          |
| Director, Purchasing (Agency CPO)                              | 17%                               | 19%                               | 72%                          | 79%                          |
| Manager, Purchasing (Mgr. of Division/Section)                 | 10%                               | 10%                               | 64%                          | 74%                          |
| Manager, Contracts   | 7%                                | 7%                                | 59%                          | 75%                          |
| Manager, Warehouse or Stores/Logistics                         | 2%                                | 2%                                | 56%                          | 73%                          |
| Senior Buyer   | 4%                                | 4%                                | 49%                          | 61%                          |
| Buyer  | 1%                                | 1%                                | 40%                          | 55%                          |
| Specifications Specialist                                      | 0%                                | 0%                                | 59%                          | 59%                          |
| Contract Specialist  | 3%                                | 3%                                | 57%                          | 71%                          |
| Assistant Buyer  | 0%                                | 0%                                | 24%                          | 39%                          |
| Stores Technician  | 0%                                | 0%                                | 100%                         | 100%                         |
| Fixed Assets Technician  | 0%                                | 0%                                | 50%                          | 50%                          |
| Expediter  | 0%                                | 0%                                | 57%                          | 57%                          |
| Administrative Assistant                                       | 1%                                | 3%                                | 35%                          | 45%                          |
| <b>TOTAL</b>   | <b>7%</b>                         | <b>8%</b>                         | <b>56%</b>                   | <b>67%</b>                   |

Management positions in public procurement have a greater percentage of individuals with a 2 year or 4 year degree. The one outlier is Stores Technician; with two respondents with this job classification, both had a 4 year or higher degree. This is true for those with a CPPB or CPPO certification, the higher percentage of individuals holding either certification is found more often in management positions.

| TITLE OF POSITION  | CPPB & 4 Year Degree & Higher (%) | CPPB & 2 Year Degree & Higher (%) | 4 Year Degree And Higher (%) | 2 Year Degree And Higher (%) |
|--|-----------------------------------|-----------------------------------|------------------------------|------------------------------|
| Director, Materials Management (Chief Procurement Officer)     | 13%                               | 21%                               | 63%                          | 76%                          |
| Director, Purchasing and XX (Chief Procurement Officer and XX) | 22%                               | 26%                               | 78%                          | 84%                          |
| Director, Purchasing (Agency CPO)                              | 22%                               | 25%                               | 72%                          | 79%                          |
| Manager, Purchasing (Mgr. of Division/Section)                 | 20%                               | 24%                               | 64%                          | 74%                          |
| Manager, Contracts   | 16%                               | 25%                               | 59%                          | 75%                          |
| Manager, Warehouse or Stores/Logistics                         | 32%                               | 34%                               | 56%                          | 73%                          |

|                           |            |            |            |            |
|---------------------------|------------|------------|------------|------------|
| Senior Buyer              | 19%        | 25%        | 49%        | 61%        |
| Buyer                     | 13%        | 16%        | 40%        | 55%        |
| Specifications Specialist | 26%        | 26%        | 59%        | 59%        |
| Contract Specialist       | 21%        | 23%        | 57%        | 71%        |
| Assistant Buyer           | 7%         | 7%         | 24%        | 39%        |
| Stores Technician         | 0%         | 0%         | 100%       | 100%       |
| Fixed Assets Technician   | 0%         | 0%         | 50%        | 50%        |
| Expediter                 | 14%        | 14%        | 57%        | 57%        |
| Administrative Assistant  | 1%         | 1%         | 35%        | 45%        |
| <b>TOTAL</b>              | <b>18%</b> | <b>22%</b> | <b>56%</b> | <b>67%</b> |

The percentage identified with 2-Year & Higher and 4-Year & Higher are identical because it is from the same population group for the sample, therefore those results are the same for both the CPPB and the CPPO charts.

The study below for 2009 asked respondents the same questions as the 2007 survey. The 2009 survey was sent out on March 14, 2009 as an on-line survey through NIGP to 15,318 individuals in their membership database. There were 1,879 responses with a return rate of 12%. The results of the 2009 survey show the percentage of total respondents for each job classification with education and/or certification. An abbreviation of the results is as follows:

| TITLE OF POSITION  | CPPO & 4 Year Degree & Higher (%) | CPPO & 2 Year Degree & Higher (%) | 4 Year Degree And Higher (%) | 2 Year Degree And Higher (%) |
|--|-----------------------------------|-----------------------------------|------------------------------|------------------------------|
| Director, Materials Management (Chief Procurement Officer)     | 47%                               | 50%                               | 86%                          | 91%                          |
| Director, Purchasing and XX (Chief Procurement Officer and XX) | 30%                               | 29%                               | 85%                          | 88%                          |
| Director, Purchasing (Agency CPO)                              | 30%                               | 28%                               | 74%                          | 83%                          |
| Manager, Purchasing (Mgr. of Division/Section)                 | 22%                               | 22%                               | 73%                          | 80%                          |
| Manager, Contracts   | 23%                               | 21%                               | 79%                          | 86%                          |
| Manager, Warehouse or Stores/Logistics                         | 10%                               | 8%                                | 59%                          | 71%                          |
| Senior Buyer   | 14%                               | 11%                               | 54%                          | 69%                          |
| Buyer  | 2%                                | 2%                                | 48%                          | 60%                          |
| Specifications Specialist                                      | 0%                                | 0%                                | 83%                          | 83%                          |
| Contract Specialist  | 3%                                | 4%                                | 60%                          | 73%                          |
| Stores Technician  | 0%                                | 0%                                | 0%                           | 0%                           |
| Expediter  | 0%                                | 0%                                | 0%                           | 0%                           |
| Administrative Assistant                                       | 0%                                | 0%                                | 36%                          | 53%                          |
| <b>TOTAL</b>   | <b>18%</b>                        | <b>16%</b>                        | <b>64%</b>                   | <b>73%</b>                   |

The results show a dramatic increase for CPO's with a 4 year degree and CPPB Certification. Certification and education, and are improved from the last survey in 2007 especially for Directors, Managers and Buyers supporting the position that certification and education are gaining importance in public procurement.

| TITLE OF POSITION  | CPPB & 4 Year Degree & Higher (%) | CPPB & 2 Year Degree & Higher (%) | 4 Year Degree And Higher (%) | 2 Year Degree And Higher (%) |
|--|-----------------------------------|-----------------------------------|------------------------------|------------------------------|
| Director, Materials Management (Chief Procurement Officer)     | 53%                               | 50%                               | 86%                          | 91%                          |
| Director, Purchasing and XX (Chief Procurement Officer and XX) | 29%                               | 29%                               | 85%                          | 88%                          |
| Director, Purchasing (Agency CPO)                              | 28%                               | 29%                               | 74%                          | 83%                          |
| Manager, Purchasing (Mgr. of Division/Section)                 | 41%                               | 42%                               | 73%                          | 80%                          |
| Manager, Contracts   | 34%                               | 40%                               | 79%                          | 86%                          |
| Manager, Warehouse or Stores/Logistics                         | 30%                               | 25%                               | 59%                          | 71%                          |
| Senior Buyer   | 42%                               | 43%                               | 54%                          | 69%                          |
| Buyer  | 38%                               | 34%                               | 48%                          | 60%                          |
| Specifications Specialist                                      | 40%                               | 40%                               | 83%                          | 83%                          |
| Contract Specialist  | 51%                               | 47%                               | 60%                          | 73%                          |
| Stores Technician  | 0%                                | 0%                                | 0%                           | 0%                           |
| Expediter  | 0%                                | 0%                                | 0%                           | 0%                           |
| Administrative Assistant                                       | 6%                                | 4%                                | 36%                          | 53%                          |
| <b>TOTAL</b>   | <b>37%</b>                        | <b>37%</b>                        | <b>64%</b>                   | <b>73%</b>                   |

| CERTIFICATION AND EDUCATION DEMOGRAPHICS |      |      |
|--|------|------|
|  | 2007 | 2009 |
| CPPO & 4 Yr Degree & Higher              | 7%   | 18%  |
| CPPO & 2 Yr Degree & Higher              | 8%   | 16%  |
| Four Yr Degree & Higher                  | 56%  | 64%  |
| Two Yr Degree & Higher                   | 67%  | 73%  |
| CPPB & 4 Yr Degree & Higher              | 18%  | 37%  |
| CPPB & 2 Yr Degree & Higher              | 22%  | 37%  |

This information shows certification and education from 2007 to 2009 have increased. The trend shows an increase in value for both certification and education.

### UPPCC CPPB/CPPO Job Analysis Industry Information

The Job Analysis Survey conducted by the UPPCC through NIGP in April of 2007 included information for the National Council of Public Procurement and Contracting (NCPPC), the demographics for six of the seven organizations that made up the NCPPC. The information would document current trends in public procurement for each individual organization and the Council as a whole.

| <b>ORGANIZATIONS REPRESENTED IN JOB ANALYSIS SURVEY</b>      |  |
|--|--|
| California Association of Public Purchasing Officers (CAPPO) | Florida Association of Public Purchasing Officials (FAPPO) |
| National Association of Educational Procurement (NAEP)       | National Association of State Purchasing Officials (NASPO) |
| National Institute of Governmental Purchasing, Inc. (NIGP)   | National Purchasing Institute (NPI)                        |

The National Contract Management Association who is also a member of the NCPPC opted not to participate in the study. There were 18,798 surveys sent and 1,848 valid responses received for a response rate of 11%. This report will reference only portions of the survey that have an effect on education, certification, gender, and salary.

| <b>What is your highest degree attained?</b> | <b>CAPPO (%)</b> | <b>FAPPO (%)</b> | <b>NAEP (%)</b> | <b>NASPO (%)</b> | <b>NIGP (%)</b> | <b>NPI (%)</b> |
|--|------------------|------------------|-----------------|------------------|-----------------|----------------|
| High school or equivalent                    | .9               | 9.6              | 3.0             | 4.2              | 7.5             | 1.6            |
| Some college                                 | 23.5             | 28.3             | 15.7            | 18.8             | 25.2            | 15.9           |
| Associate's degree                           | 12.2             | 9.6              | 8.2             | 10.4             | 10.7            | 7.9            |
| Bachelor's degree                            | 27.8             | 26.0             | 26.1            | 27.1             | 31.6            | 31.8           |
| Some graduate school                         | 11.3             | 7.3              | 16.4            | 20.8             | 7.9             | 20.6           |
| Master's degree                              | 22.6             | 19.2             | 29.1            | 18.8             | 16.1            | 20.6           |
| Doctorate degree                             | 1.7              | 0.0              | 1.5             | 0.0              | 1.1             | 1.6            |
| Total % for 4 yr degree or higher            | 63.4             | 52.5             | 73.1            | 66.8             | 56.7            | 74.6           |

| <b>Which of the following other industry certifications do you have?</b> | <b>CAPPO (%)</b> | <b>FAPPO (%)</b> | <b>NAEP (%)</b> | <b>NASPO (%)</b> | <b>NIGP (%)</b> | <b>NPI (%)</b> |
|--|------------------|------------------|-----------------|------------------|-----------------|----------------|
| A.P.P.   | 35.6             | 9.7              | 12.9            |                  | 9.4             | 21.7           |
| C.P.M.   | 37.3             | 25.8             | 61.3            | 41.7             | 28.6            | 47.8           |
| C.P.P.   |                  |                  | 3.2             |                  | 1.7             | 4.4            |
| CCCA   |                  |                  |                 |                  | .7              |                |
| CDT  |                  |                  |                 |                  | .3              |                |
| CFCM   | 1.7              | 3.2              | 3               |                  |                 |                |
| CPCM   |                  |                  | 1.6             |                  | .7              |                |
| CPIM   |                  |                  | 1.6             |                  | .7              |                |
| CPM (Cert. Public Mgr.)  | 5.1              | 12.9             | 1.6             | 16.7             | 5.72            | 4.4            |
| State certification  | 20.3             | 48.4             | 17.7            | 41.7             | .7              | 21.7           |

| <b>Which of the following UPPCC certifications do you have?</b> | <b>CAPPO (%)</b> | <b>FAPPO (%)</b> | <b>NAEP (%)</b> | <b>NASPO (%)</b> | <b>NIGP (%)</b> | <b>NPI (%)</b> |
|---|------------------|------------------|-----------------|------------------|-----------------|----------------|
| CPPB Only   | 7.0              | 44.0             | 13.4            | 33.3             | 42.9            | 28.6           |
| CPPO Only   | 6.1              | 2.8              | 4.5             | 14.6             | 6.0             | 11.1           |
| CPPB and CPPO   | .9               | 7.9              | 2.2             | 8.3              | 6.7             | 12.7           |
| None  | 86.1             | 45.8             | 79.9            | 43.8             | 44.4            | 47.6           |

| What is your gender? | CAPPO (%) | FAPPO (%) | NAEP (%) | NASPO (%) | NIGP (%) | NPI (%) |
|----------------------|-----------|-----------|----------|-----------|----------|---------|
| Male                 | 44        | 36        | 45       | 58        | 40       | 52      |
| Female               | 56        | 64        | 55       | 42        | 60       | 48      |

Procurement positions within an organization that required certification at the time of hire were identified. The certifications most often mentioned were A.P.P.; C.P.M.; CPPB; CPPO; CPCM; or State certification for the following positions, with an asterisk marking those positions with the highest concentration:

| POSITIONS REQUIRING CERTIFICATION AT THE TIME OF HIRE |   |
|---|---|
| Administrative Support                                | Legal Administrator/Counsel             |
| *Assistant Director/Unit Supervisor                   | Program Manager                         |
| * Contract Administrator/Contract Manager             | *Program Supervisor                     |
| *Director/Manager of Purchasing                       | Risk Management Administrator           |
| Entry Level Buyer/Contract Specialist                 | *Senior Level Buyer/Contract Specialist |
| Executive/Senior Administrator                        | Warehouse/Stores/Inventory Manager      |
| Finance/Accounting Administrator                      | Warehouse/Stores/Inventory Support      |
| *Intermediate Level Buyer/Contract Specialist         |   |

| At the time of hire, does certification affect starting salary? | CAPPO (%) | FAPPO (%) | NAEP (%) | NASPO (%) | NIGP (%) | NPI (%) |
|---|-----------|-----------|----------|-----------|----------|---------|
| Yes   | 23        | 35        | 36       | 29        | 34       | 39      |
| No  | 77        | 65        | 64       | 71        | 66       | 61      |

| Is there salary consideration given once hired into a position when certification is earned? | CAPPO (%) | FAPPO (%) | NAEP (%) | NASPO (%) | NIGP (%) | NPI (%) |
|--|-----------|-----------|----------|-----------|----------|---------|
| Yes  | 23        | 41        | 36       | 26        | 35       | 39      |
| No   | 77        | 59        | 64       | 74        | 65       | 61      |

| Does your agency place equal value on all professional certifications or is there different salary adjustments based on the type of certification earned? | CAPPO (%) | FAPPO (%) | NAEP (%) | NASPO (%) | NIGP (%) | NPI (%) |
|---|-----------|-----------|----------|-----------|----------|---------|
| Equal   | 74        | 75        | 75       | 86        | 76       | 70      |
| Different   | 26        | 25        | 25       | 14        | 24       | 30      |

Positions in the organizations that required a college degree were indicated for the following positions with the largest concentration in those marked with an asterisk:

| POSITIONS REQUIRING A COLLEGE DEGREE AT THE TIME OF HIRE |   |
|--|---|
| Administrative Support                                   | *Legal Administrator/Counsel            |
| *Assistant Director/Unit Supervisor                      | Program Manager                         |
| *Contract Administrator/Contract Manager                 | Program Supervisor                      |
| *Director/Manager of Purchasing                          | *Risk Management Administrator          |
| Entry Level Buyer/Contract Specialist                    | *Senior Level Buyer/Contract Specialist |
| *Executive/Senior Administrator                          | Warehouse/Stores/Inventory Manager      |
| *Finance/Accounting Administrator                        | Warehouse/Stores/Inventory Support      |
| Intermediate Level Buyer/Contract Specialist             |   |

| Is there salary consideration given once hired into a position when a degree is earned? | CAPPO (%) | FAPPO (%) | NAEP (%) | NASPO (%) | NIGP (%) | NPI (%) |
|---|-----------|-----------|----------|-----------|----------|---------|
| Yes   | 23        | 32        | 32       | 28        | 28       | 28      |
| No  | 77        | 68        | 68       | 72        | 72       | 72      |

| When considering a candidate for employment within your organization, all things being equal, does certification give an applicant a hiring advantage? | CAPPO (%) | FAPPO (%) | NAEP (%) | NASPO (%) | NIGP (%) | NPI (%) |
|--|-----------|-----------|----------|-----------|----------|---------|
| Yes  | 80        | 87        | 91       | 84        | 83       | 93      |
| No   | 20        | 13        | 9        | 16        | 17       | 7       |

| What is your current annual salary range in U.S. dollars? | CAPPO (%) | FAPPO (%) | NAEP (%) | NASPO (%) | NIGP (%) | NPI (%) |
|---|-----------|-----------|----------|-----------|----------|---------|
| Less than \$20,000  | 0.0       | 0.0       | 0.0      | 0.0       | 0.1      | 0.0     |
| \$20,000 to \$29,999                                      | 0.9       | 4.6       | 3.0      | 2.1       | 3.2      | 0.0     |
| \$30,000 to \$39,999                                      | 0.9       | 17.1      | 13.4     | 6.3       | 14.5     | 4.8     |
| \$40,000 to \$49,999                                      | 7.8       | 26.7      | 17.2     | 12.5      | 22.5     | 17.5    |
| \$50,000 to \$59,999                                      | 23.5      | 17.1      | 14.9     | 16.7      | 20.2     | 11.1    |
| \$60,000 to \$69,999                                      | 14.8      | 14.8      | 15.7     | 12.5      | 15.7     | 11.1    |
| \$70,000 to \$79,999                                      | 14.8      | 7.4       | 10.5     | 6.3       | 8.4      | 9.5     |
| \$80,000 to \$89,999                                      | 9.6       | 4.6       | 10.5     | 12.5      | 6.1      | 17.5    |
| \$90,000 to \$99,999                                      | 8.7       | 4.6       | 5.2      | 16.7      | 4.0      | 9.5     |
| \$100,000 to \$124,999                                    | 14.8      | 2.3       | 6.0      | 10.4      | 4.4      | 15.9    |
| \$125,000 to \$149,999                                    | 3.5       | 1.1       | 3.0      | 4.2       | 0.7      | 3.2     |
| \$150,000 to \$174,999                                    | 0.0       | 0.0       | 0.0      | 0.0       | 0.1      | 0.0     |
| Over \$175,000  | 0.9       | 0.0       | 0.8      | 0.0       | 0.1      | 0.0     |

The results of this survey support previously reported information. There is a definite increase in the percentage of individuals with certification and higher education. The increase shows recognition of the need for additional knowledge and skills for public procurement. The survey shows agencies recognizing the value of higher education and certification; however salary increases are still very low. The best time to make an impact on salary is at the time of hire. Agencies give preference to applicants at the time of hire if they have a degree and/or certification. Public purchasers should use this as leverage for additional salary consideration at the time of hire. Results show that more positions require a degree than certification.

This survey revealed an increase in the number of women in public procurement for federal and state/local government. All other published materials reviewed for the private sector showed there are still more men than women in supply chain management, especially in management positions. This study also showed 65% of the respondents had a bachelor's degree or higher. For certification, importance was evidenced by the number of positions that required some form of certification.

### **SURVEY OF STATE CERTIFICATION PROGRAMS**

The above mentioned survey asked what certifications were currently held by respondents in the six organizational members of the NCPPC. Responses to this question included state certification. To further determine the extent and trend regarding state certification programs a survey was developed and issued in 2009 to determine the number of states that had their own certification programs. The electronic survey was sent out by this author to all members of NASPO, since state certification programs would most likely be administered through the Chief Procurement Officers of each state. The initial response was 22 of 51 as the District of Columbia was included. Additional requests to answer the survey were issued via e-mail and telephone if necessary. The final response rate was 43 responses, for a return rate of 84%.

Information obtained through the survey confirmed information obtained through the NCPPC survey and other publications reviewed for this report.

States have implemented certification programs with a main focus on the processes and procedures required through laws and regulations for that particular state. Laws, regulations and established procurement processes must be followed by all state agencies, and in some cases local government. This is the major difference between public and private procurement.

| <b>States With Some Form of State Certification Program</b> | <b># of CPPO Certifications Issued to Date</b> | <b># of CPPB Certifications Issued to Date</b> |
|---|--|--|
| Alaska  | 8  | 20   |
| California  | 45   | 190  |
| Florida   | 226  | 963  |
| Georgia   | 105  | 345  |
| Iowa  | 5  | 29   |
| Minnesota   | 12   | 75   |
| Nevada  | 15   | 20   |
| New Jersey  | 22   | 47   |

|                |              |              |
|----------------|--------------|--------------|
| New Mexico     | 13           | 31           |
| New York       | 111          | 943          |
| North Dakota   | 0            | 1            |
| Ohio           | 30           | 102          |
| Oklahoma       | 6            | 32           |
| Oregon         | 37           | 206          |
| Pennsylvania   | 24           | 77           |
| South Carolina | 69           | 304          |
| Texas          | 111          | 702          |
| Virginia       | 163          | 597          |
| West Virginia  | 14           | 34           |
| <b>TOTAL</b>   | <b>1,016</b> | <b>4,718</b> |

Of those states that have a state certification there is a presence of UPPCC certifications as well. States see a need for certification at a local level and the national level as well.

| <b>STATE CERTIFICATION DEMOGRAPHICS</b>  |     |
|--|-----|
| States with a Certification Program  | 44% |
| States using State Developed Materials Only  | 47% |
| States Requiring Written Exams   | 47% |
| States with More than One Level of Certification                                       | 74% |
| States Requiring State Certification for Increase Agency Spend Authority               | 59% |
| States Offering Salary Increases for State Certification                               | 0%  |
| States Offering Salary Increases for National Certification                            | 14% |
| States Giving Preference at Hire for Those with Certification "All Things Being Equal" | 70% |

### NCPPC Value of Certification Survey

The NCPPC issued a follow-up survey to the one issued with the UPPCC's Job Analysis survey in January of 2009. Surveys were sent via e-mail to ~ 1,200 CAPPO members; 1,432 FAPPO members; 4,298 NAEP members; 100 NASPO members; 15,665 NCMA members; 9,898 NIGP members; and 318 NPI members for a total of 32,911. There were 1,746 responses received for a return rate of 5.3%. The following is information was obtained from respondents to the survey

| <b>Which of the following certifications do you hold? (Select all that apply)</b> | <b>Response Percent</b> | <b>Response Count</b> |
|---|-------------------------|-----------------------|
| A.P.P. (ISM Certification)  | 4.1%                    | 71                    |
| CCCM (NCMA Certification)   | 1.5%                    | 25                    |
| CFCM (NCMA Certification)   | 7.4%                    | 128                   |
| CPCM (NCMA Certification)   | 15.7%                   | 270                   |
| C.P.M. (ISM Certification)  | 16.4%                   | 283                   |
| CPPB (UPPCC Certification)  | 13.3%                   | 229                   |
| CPPO (UPPCC Certification)  | 5.4%                    | 93                    |
| CPSM (ISM Certification)  | 0.9%                    | 16                    |
| DAWIA 1, 2 or 3 (Federal Government)  | 11.1%                   | 191                   |
| FAC-C (Federal Government)  | 2.7%                    | 47                    |
| None  | 35.8%                   | 618                   |



This chart shows 64.2% of those responding held some type of certification.

| Is certification a career objective? | Response Percent | Response Count |
|--------------------------------------|------------------|----------------|
| Yes                                  | 51.0%            | 878            |
| No                                   | 49.0%            | 842            |

| Please indicate your agreement with the following Statements about public procurement certification: | Strongly Agree | Agree | TOTAL Percent Affirmative |
|--|----------------|-------|---------------------------|
| Increases Self Confidence  | 40.3%          | 47.1% | 87.4%                     |
| Increases Knowledge and Skills   | 42.2%          | 48.0% | 90.2%                     |
| Improves Credibility with Internal Customers   | 30.7%          | 44.9% | 75.6%                     |
| Improves Credibility with the Supplier Community   | 28.0%          | 43.9% | 71.9%                     |
| Improves Credibility with Senior Management  | 34.7%          | 44.8% | 79.5%                     |
| Increases opportunities for agency-funded continued education  | 16.7%          | 32.5% | 49.2%                     |
| Increases Opportunities for Career Advancement   | 32.2%          | 44.1% | 77.3%                     |
| Results in Increased Signature Authority   | 13.9%          | 24.4% | 38.1%                     |
| Encourages Ethical Behavior  | 27.4%          | 43.5% | 70.9%                     |
| Has Been a Factor in Advancing my Career   | 25.7%          | 31.2% | 56.9%                     |

| In what ways does your employer value public procurement certification?: | Response Percent | Response Count |
|--|------------------|----------------|
| Increased Salary at Time of Hire   | 15.3%            | 263            |
| Bonus at Time of Hire  | 1.7%             | 30             |
| Salary Increase for Attaining Certification                              | 9.6%             | 165            |
| Bonus for Attaining Certification  | 5.7%             | 98             |
| Provides Funding for Continued Education/Professional Development        | 45.1%            | 774            |
| None   | 34.5%            | 219            |

| When considering candidates for employment within your organization, all things being equal, does possessing a public procurement certification give a candidate a hiring advantage? | Response Percent | Response Count |
|--|------------------|----------------|
| Yes  | 76.4%            | 1,206          |
| No   | 23.6%            | 372            |

| Do you consider professional certification when promoting or recommending promotions of employees to procurement positions? | Response Percent | Response Count |
|---|------------------|----------------|
| Yes   | 70.0%            | 1,071          |
| No  | 30.0%            | 459            |

## CONCLUSION

Trends in certification and education show an increased requirement in the public procurement sector, as well as all other sectors of procurement and supply chain management.

Trends indicate more women are now being hired into positions that were historically predominantly male; however there still exists a disparity in salary between women and men which deserves greater attention and research. The disparity has been in existence for many years. While laws have been put into place to try to change this inequity, they have not been effective, as can be seen by all publications reviewed. The results were all the same, women are paid less than their male counterparts.

The educational trend for senior buyer, management, and director positions is a bachelor's degree, with a master's preferred for some director positions. Education is becoming required instead of desired.

Educational requirements are also important for certification as well. Most certifications now require a minimum of a bachelor's degree along with work experience and additional procurement/supply chain management training provided through professional associations. While there are increasingly more Colleges and Universities offering degrees in Procurement and Supply Chain Management there is still the need for additional training supplied through professional organizations for certification. Certification will continue to be an important factor to document achievement of additional skills and knowledge required in the procurement profession, whether it is public or private.

In the early 90's there was relatively little difference between public and private procurement as was cited in the earlier Center for Advanced Purchasing Studies (CAPS) research. As years have gone by, this trend has not prevailed and there has been a definite shift in public and private.

The private sector has become supply chain management oriented and public sector is still concerned with laws and regulations regarding the expenditure of public funds. While both public and private are still concerned with obtaining goods and services at the best price and share some fundamental knowledge and skills, there is enough of a difference that professional associations are taking note and focusing more on one sector instead of trying to ensure they meet the needs of all purchasers across all sectors.

The following certifications were mentioned by the members of the National Council for Public Procurement and Contracting (NCPPC). The chart below indicates where professional associations and certification bodies are targeting their certification programs.

| PROFESSIONAL ASSOCIATION/<br>CERTIFICATION BODY           | CERTIFICATIONS                   | TARGETED SECTORS   |
|---|----------------------------------|--|
| Institute for Supply Management (ISM)                     | A.P.P.; C.P.M;<br>Current - CPSM | Supply Chain Management  |
| National Contract Management Association (NCMA)           | CCCM; CFCM;<br>CPCM              | Federal Contracts Managers and Civilian Contractors with Federal Contracts |
| Universal Public Purchasing Certification Council (UPPCC) | CPPB; CPPO                       | State/Local Governments, K-12 and Higher Education Institutions            |
| Federal Government - Department of Defense (DOD)          | DAWIA – Level 1, 2, and 3        | Civilian and Military Workforce in Federal Government Contracting          |
| Federal Government - Federal Acquisition Institute (FAI)  | FAC-C                            | Federal Acquisition Workforce  |

Because of changing trends in the private sector, members of National Association of Purchasing Management (NAPM) voted to change their name to the Institute for Supply Management (ISM) in 2002. With this change, the focus shifted to supply chain management, impacting their certification programs. ISM now exclusively offers the Certified Professional in Supply Management (CPSM).

While ISM will continue to recertify those that hold the A.P.P. or C.P.M., they no longer offer those certifications. As the NCPPC survey results showed, there are many who are in the public sector who obtained the A.P.P. and/or C.P.M. certification(s). While individuals in the public sector can still apply for and take the examinations for ISM's CPSM certification, it is being targeted to supply chain management professionals in the private sector.

Recently NASPO released a survey from the State Chief Procurement Officers ranking top issues entitled *NASPO Emerging Issues Survey, February 2010*. The table below shows these issues along with the top areas of importance identified in the Center for Advanced Purchasing Studies (CAPS) report issued in 2004. The issues are listed in order of importance.

| <b>CAPS – Purchasing Education and Training II – 2004 Report – Important Knowledge Areas</b> | <b>NASPO – Survey of Chief Procurement Officers – Top Issues</b> |
|--|--|
| Supplier Relationship Management   | Spend Data Management  |
| Total Cost Analysis  | ARRA Compliance and Reporting                                    |
| Purchasing Strategies  | Mandatory Contract Reductions                                    |
| Analysis of Suppliers  | Set-Aside Provisions   |
| Competitive Market Analysis  | Risk Management  |
| Supply Chain Management  | IT Contract Terms & Conditions                                   |
| Supplier Evaluations   | Procurement Organization Reform                                  |
| Price and Cost Analysis  | “Buy American” Provisions  |
| Outsourcing  | Section 511 of TIPRA (3% tax withholding)                        |
| Total Quality Management/Six Sigma   | Cooperative Contracting & Use of Cooperatives                    |
| Make Versus Buy  | Contract Auditing  |
| Value Chain  | Contract Administrative Fees/Self Funding Models                 |
| Project Management   |  |

As can be seen there is a definite shift to supply chain management for the private sector, while public procurement is still very concerned with legislative concerns.

Another issue noted in the 1990 CAPS report was the use of buying cooperatives. Only recently has this has been gaining popularity in the public sector as is noted in the top issues from NASPO members above. There are many cooperatives promoting their contracts to public procurement officials. Each state has its own laws, regulations and procedures regarding participation in cooperatives and must ensure these cooperatives will meet the legislative requirements. This is an important issue and concern for public purchasers, and is not listed as an important knowledge area for supply chain management.

The most important information gained is the increasing value and requirements for certification and education for procurement and supply chain management. Along with this increase in value and requirements there should be an elevation and greater recognition of procurement and supply chain management as a profession.

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