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Commercial Management: an investigation into the role of the commercial manager

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INTRODUCTION

In 1989 a consortium of the UK's leading construction companies invited selected universities to submit proposals for a new degree programme in Quantity Surveying to prepare graduates for the wider aspects of their commercial activities. The Department of Building Engineering at UMIST was chosen to develop the first programme, to be called Commercial Management and Quantity Surveying (CM&QS).

Ashworth (1994) has indicated that it is essential for programme designers to identify what students will be expected to know and understand and what skills will be required of them when they enter into practice. The aim of the programme, together with Ashworth's comments, highlight the need to define commercial management and to identify the role of the commercial manager.

As part of the review and monitoring processes associated with the programme development, a detailed investigation of the nature and context of commercial management was carried out by an occupational psychologist trained in interview and job analysis techniques.

METHODOLOGY

A review of the literature did not unearth a definitive statement of what was meant by commercial management nor a description of the tasks and skills associated with the role of a commercial manager. Scott (1974) and Gilbreath (1983) addressed some of the issue associated with commercial management, while Cottrell (1979) identified those skills needed by the building quantity surveyor but, again, no definition was found. An investigation by Cormick and Osbon (1994), while establishing the role of the contractor's quantity surveyor during the construction process, did not address the specific issue of commercial management.

A study by the Royal Institution of Chartered Surveyors (RICS, 1992) has identified a framework for the classification of knowledge and skills that a professional quantity surveyor (PQS) possesses. It concluded that the identification of core skills and knowledge was essential in making any diversification sustainable and maintaining a competitive advantage for the
profession. While the study did not specifically address the implications of commercialism on the profession, it did, however, comment on the need for Chartered Surveyors to be responsive to market demand.

Structured interviews were held with five PQSs and 11 individuals holding the position of commercial manager (in some cases their job title was not that of commercial manager). Further opinion was obtained from two solicitors to provide an alternative perspective. The solicitors specialised in construction law and one had previously been a commercial manager.

Based on the interviews it was hoped to:

- define commercial management;
- investigate whether commercial management could be taught on a degree programme and if so in what way;
- elicit the tasks the interviewees performed as part of their job and the skills needed to perform these tasks successfully.

The interviewees were asked to describe tasks performed in their role as a commercial manager or QS. They were then asked to outline incidents where they had performed the tasks effectively or ineffectively, that is, the outcome was successful or unsuccessful. This was followed by describing the behaviours associated with the successful or unsuccessful outcomes. This produced essentials of job performance which make the difference between success and failure in a job.

The supervisors of the interviewees were also interviewed to obtain confirmatory data.

**RESULTS**

The results were analysed using content analysis. For job analysis this involved organising the incidents into various categories that were then used to compile a list of tasks, skills and competencies associated with the role of commercial manager. These lists are given in Appendix A. The information contained in the interviewees' responses to the questions `What is commercial management?' and `Should graduates be taught commercial management?' were analysed by identifying the key themes that arose in the answers supplied. The data were then interpreted in the context of the research aims.

**Background**

The interviewees believed that in the last ten years the construction industry had become more competitive, with more companies tendering for business. In particular, over the last four or five years, due to the recession, the amount of money available for building has declined. This had resulted in, as one person explained, ‘... 99% of the work going to the lowest bidder’. Further, the money that is generated ‘... from tendering is pretty break neck, whereas previously we got tenders on recommendation.’ Those interviewed stressed that as a result of this situation PQSs and contractors were finding it increasingly difficult to make a profit on work obtained through competitive tendering. The result of this was that the QS has had to become more commercially aware in order to `maximise every conceivable source of income.' One interviewee described the situation as follows: ‘In the good old days QSs measured rates and we had arguments about those rates ... but nobody worried about it because the money came in eventually and you always got paid more than you spent. These days you are generally spending more than
you are paid, the focus is absolutely acute because the value of work in progress and the cash that is needed to fund it is bringing a lot of companies to their knees. I don't think that will change unless competition is reduced.

The general consensus was that commercial management is a term used within the construction industry to describe those individuals within construction companies who manage the finances of large, complex contracts.

**Commercial management within construction companies**

When asked to provide a definition of commercial management all interviewees provided an answer that centred on the following: ‘commercial management is looking after the profits of the company. That is done by keeping costs to a minimum and maximising income.’

When asked to describe the actual skills and tasks required of a commercial manager, in order to fulfil the above, all those interviewed thought that the following were important: analytical skills, numerical skills, logical thinking and the technical skills associated with quantity surveying.

One of the primary functions of a commercial manager is the management of `cash flow'. This has been described as `good housekeeping' or `applying the same rules to the management of the company’s money as you would use when managing your own money'. An analogy used to illustrate the latter definition, described by several interviewees, was not paying your mortgage until your salary has been paid into your bank account. Managing cash flow is complicated and involves many aspects, some of which are directly related to a project’s financial position. This involves setting up payment clauses within contracts so that sub-contractors are paid after payments have been received from the client. It also involves the analysis of sub-contractor tenders to ascertain which provides the cheapest quality service. This incorporates analysis of weekly or monthly cash reports provided by the QS on site. The commercial manager attempts to balance the payments coming into the company or project with those going out. This can involve such matters as checking sub-contractor claims and forecasting, a tool used to predict future financial transactions and as a result the final financial outcome of a project. This enables increases in costs or variations to be accounted for and the opportunity to balance out the increases in cost by a reduction in costs elsewhere.

Commercial management is also considered to incorporate other aspects that are less directly involved with the finances but which are related to managing the cash flow of a site or company. Examples of these are:

- **The ability to take a broad perspective:** This was described as the ability to be able to see the effect of one action on other parts of the site or company. For example, ‘... recognising that if a dispute with a sub-contractor were to result in litigation, even if you win you still lose, it is not good for the image of the company... a CM needs to be able to recognise that and do everything he/she can to resolve the dispute before it gets that far’. Another interviewee gave the following example, ‘Construction generates a cash flow which is a big plus for a PLC. As a CM you need to understand the importance of that money for the rest of the company'.

- **The ability to think laterally:** This was described as problem solving by assessing the problem by different or unorthodox methods, whilst considering the whole picture. One
interviewee provided an example of this ‘... we couldn’t reach an agreement with a client about the payment of a project. They were not prepared to pay us what we had paid out... After much searching for a solution we came to the arrangement that the client would pay us the amount of money they wanted to pay us six weeks before we finished the job, as they were not earning interest on it. We were then able to earn interest on it and by the time we finished the job it had increased to the sum we originally asked for. Everybody was happy and the client then gave us more work after that’. Lateral thinking was often associated with being flexible. Many of those interviewed thought that a good commercial manager could not always stick to hard and fast contractual rules. They need to know when to be flexible. Several interviewees even went as far as to call it skulduggery.

• The ability to analyse risks: Managing cash flow was believed to begin at the tender enquiry stage. All those interviewed considered that those individuals who were commercially aware would see the importance of risk assessment at this stage of a project. ‘A good commercial manager will assess the risks associated with a tender and decide whether they were acceptable or unpriceable’. One interviewee described the process as follows: ‘To determine the risks I go through the tender documents and look at the terms of the contract... are the costs mainly principal ones? I look at the nature of the contract. The more complex the building the more areas of potential failures there are and the more management things I have to do to make sure it does not fail.’ The assessment of risk does not only occur at the tender stage of the project but at all subsequent stages. Almost all those interviewed believed that risk analysis was an important part of the commercial manager’s role. Three stages of the risk assessment process were described:

• Being proactive about assessing situations and discovering possible risks. The risk is then less likely to turn into a problem.
• Determining the cost of the risk, then assessing whether this cost/risk is acceptable. If not
• Discovering ways to reduce the risk and thus the cost associated with the risk.

• The ability to convert work required on a project into packages: A commercial manager, it was thought, needs to be able to assess the best way of subdividing the works into packages. This involves assessing which solution provides the best service at the lowest price. This task relates to both having a broad perspective and managing the cash flow.

Two skills that were believed to be important in relation to all of those matters mentioned above were those of negotiation and communication.

• The ability to negotiate: A continuous aspect of the commercial managers’ role is negotiation. This can include: the negotiation of payments with clients; negotiating disputes with sub-contractors and resolving the implications of design changes with architects. All those interviewed suggested that in order to successfully manage the finances of the site or company an individual needs to be able to negotiate. This was described as ‘knowing the rules of negotiation’, when to put people at ease and when not to and it often incorporates problem solving. However, one interviewee believed that personality factors are often a big influence in these situations, ‘... people either like you or they don’t’.

• The ability to communicate: Communication skills include written and oral communication and involve making sure that all relevant individuals are informed of matters that concern them. It is also about being proactive and about searching for information. As
one interviewee explained, `... if you don't have information how are you going to make a valued assessment of how much it's going to cost?' All interviewees stressed the importance of written communication to being commercially aware. This was in particular reference to variations and disputes. Further, all interviewees considered that a commercial manager should follow all procedures `to the book', so that mistakes or misinterpretations were not made that might result in loss of money at a later stage.

In order to perform all of these skills well, the interviewees stressed that the ability to work in a team was important. This included knowing when to delegate.

Private Quantity Surveyors' views of commercial management

The role of the QS in private practice varies slightly from that of the commercial manager employed within a construction company. The PQSs interviewed suggested that if a QS was to be successful and progress to a managerial position within private practice then they needed to be commercially aware. Those who were considered to be `bean counters' would remain in a technical role and not progress within the practice. The PQSs agreed that taking a broad perspective, thinking laterally, having good negotiating and communication skills; being proactive in assessing and finding solutions to risks and problems were all skills and competencies associated with commercial management. The ability to manage cash flow was not considered as important for PQSs because their role did not require them to balance accounts or forecast figures, to the same extent as a commercial manager. However, it was considered important to be knowledgeable about such things as: the effect delays in the project would have on the client's interest charges and whether bank rates were going up or down. The supervisors of PQSs stressed that at a higher level within a private practice (managerial or partner level) it was relevant for a QS to be more concerned about profit margins and cash flow, and in particular about the effect certain actions could have on the practice as a whole. Again, this relates to the ability to take a broad perspective. This last point was also considered important for those employed in a similar position within the solicitor's practice.

There were three issues associated with commercial management highlighted by PQSs that were not mentioned by commercial managers in a contracting organisation. These are:

• an understanding of development appraisal;
• knowledge and understanding of market forces;
• the ability to choose an appropriate procurement strategy.

• An understanding of development appraisal: a QS must manage all aspects of the client's financial outputs, which means it is important to have an understanding of development appraisal. This was described as `knowing how the developer is structuring their appraisal for doing the development, how the various costs fit together' Incorporated within this is a knowledge of rents and yields. It was also considered important to be able to determine what aspects of the building process would be critical for controlling costs. One of these aspects was considered to be time: if a contract over-runs the client loses possible earning potential. In short, an understanding of development appraisal is concerned with understanding a client’s financial and design position.

• Knowledge and understanding of the market: `One of the aims of a QS is to get value for money out of the building, to make sure, in conjunction with the rest of the design team, that
the building is attractive to the market. Therefore, being aware of the market is important so that you can feed into the design process."

- **The ability to choose the right procurement strategy**: this was considered to be important in relation to the client's development appraisal. A QS should be aware of the advantages and disadvantages associated with different procurement strategies and have the ability to advise the client on the best strategy, having considered the client's development appraisal, that is, does the client consider time, costs or quality as the key criterion?

**COMMERCIAL MANAGEMENT WITHIN THE PROGRAMME CURRICULUM**

As the BSc in Commercial Management and Quantity Surveying developed, the programme team designed a programme based around: a rigorous university education; a thick sandwich course involving Supervised Work Experience (SWE) and collaboration between the university and the sponsoring companies providing the SWE. To date this has appeared to work well; feedback into programme development was provided by a series of committees and satisfaction amongst the sponsoring contractors and graduates is high. The lack of an agreed definition for commercial management meant that the provision of commercial management within the curriculum was initially dealt with on an ad-hoc basis. However, since the investigation formulated a definition of commercial management this posed further questions for the programme team. Could the skills and competencies attributed to the commercial manager be acquired through the programme and should it be included within the syllabus or as a wider curriculum issue?

**Can and should we teach commercial management?**

The general consensus of those interviewed was that the skills associated with commercial manager are acquired through 'experience on the job'. Some even expressed the opinion that they would prefer to hire a day release student rather than a full-time graduate as they had gained 'experience on the job'. However, they did acknowledge that after a few years of experience the graduate often performs better.

This view is supported by Male & Stock (1991) who argue that within construction there is a heavy reliance placed upon experience, a knowledge and high-order source of advantage. They also comment that there is a high reliance on individuals at all levels within construction organisations and management development is held to be a key source of competitive advantage. Langford & Newcombe (1991) suggest that management development is a process that upgrades a company's managerial resources to meet its present and future needs, which can be achieved through a variety of means.

Despite this view, those interviewed suggested that if it was possible to give students a grounding in the skills mentioned, then universities should seek to do so.

All interviewees expressed the view that a theoretical approach would not suffice. They gave the opinion that experience of actual situations was needed. Simulation was suggested as a way to do this by allowing students to experience a situation where they could analyse risks, problem solve, search for information and make a profit on a project, etc. One interviewee suggested computer simulation, while another suggested group exercises with students within the group taking on different roles. The student with the role of commercial manager would then try to find out the relevant information needed to make the site run smoothly and make a profit.
Some of those interviewed suggested the use of visiting speakers from industry to give students a flavour of what to expect. One interviewee suggested that students should be encouraged to question guest speakers and that the agenda should be set by students.

Despite the fact that it was thought that these skills should be taught at university, it was emphasised that it is more important for students to learn the technical skills of the QS. ‘... When you hire a graduate you want him/her to be the back room boy/girl who can turn out bills of quantities, estimates, etc. Often graduates believe they are going to be a manager... that is something they can learn on the job... First and foremost they ought to learn how to be a quantity surveyor, secondly they ought to learn how to be a manager.’ This point highlights the views of Barrie (1995), who reports the difficulty experienced by leading Q&Ss in finding graduates with basic skills.

**Implications for the delivery of Commercial Management themes within the curriculum**

The skills of the commercial manager as described above can be divided into two main areas, decision making and interpersonal. However, in addressing the most appropriate methods of fostering these abilities and skills the programme team was required to consider implications that fell between their initial remit, that is, the provision of a broad rigorous education (university) and vocational training (the construction organisations).

- **Decision making skills**

Ashworth (1994) acknowledges that there has been a discernible shift within the surveying profession from a reliance upon memory recall of available knowledge towards problem solving. He asserts that the current emphasis is towards understanding, the development of transferable skills and competent application. He also states that the development of the trained mind includes; critical thinking and reasoning skills; the ability to think conceptually and intellectual perspective and independence of thought. The abilities collated under this heading include adopting a broad perspective, lateral thinking/problem solving and flexibility/openness.

  - **Broad perspective:** A working definition of this trait has been provided by Handy (1989) who refers to a process of re-framing, which he defines as “… the ability to see things, problems, situations or people in other ways, to look at them sideways, or upside-down; to put them in another perspective or another context; to think of them as opportunities not problems, as hiccups rather than disasters”. He considers re-framing to be important as it unlocks problems. Likewise, an awareness of the implications of an individuals comparative action decisions is central to the concept of decision support and decision making theory.

  - **Lateral thinking/problem solving:** De Bono (1985) considers lateral thinking to be a neutral process, an ability to change perception and to keep on changing perception, pattern-switching within a patterning system. He suggests specific and formal methods for generating new ideas or a new approach (unorthodox problem solving) - these included stepping stones - where an idea is employed for its movement value instead of just its judgement value, escape - where current methods/processes are assessed in terms of their appropriateness and random stimulation - where we open ourselves to influences other than those we directly sought.
**Flexibility/Openness:** Lateral thinking involves a willingness to search for better concepts. It is to do with change, especially when change necessitates escaping from working patterns that have been satisfactory in the past. Therefore, it requires the individual to be open to changes in the working practices that may result. However, most people dislike the uncertainty generated by change and as Knowles (1970) acknowledges adults acquire a large number of fixed habits and patterns of thought, and tend, therefore, to be less open minded.

Decision making skills, therefore, have a direct impact on the commercial manager's ability to manage cashflow and to assess risk by being proactive in appraising situations, determining the cost of risk and in discovering ways of reducing an organisation's exposure to it.

**• Interpersonal skills**

Interpersonal skills are important to the commercial manager. In the case of learning to work in teams within organisations, professional education was found to be lacking. (Eraut, 1994) However, should the development of these skills be restricted to an individual’s immediate working environment? It has been shown that people who have learnt how to work together on a course can continue to learn from each other and provide mutual support when they return to work. (Eraut, 1994)

**• Core skills of the QS**

The core skills of the QS as identified by Ashworth (1994) are:

- communication and the use of language;
- numeracy and an understanding and appreciation of data;
- problem solving;
- teamwork and interpersonal skills;
- information technology;
- world of work

The RICS (1992) suggest that the core skills of the QS should be taken to mean Analysis, Appraisal/Evaluation, Communication, Documentation, Management, Quantification and Synthesis.

Are these skills exclusive to the commercial manager or QS? Eraut (1994) considers deliberate processes such as planning, problem solving, analysing, evaluating and decision making to be the essence of professional practice. He proposes that these processes cannot be accomplished by using procedural knowledge alone nor by adhering to a practice manual. They require, he suggests, a unique combination of:

- prepositional knowledge;
- situational knowledge; and
- professional judgement.

Within many professions, therefore, there is an emphasis on the need for interpersonal skills, the ability to work in teams and cognitive skills such as problem-solving. The incorporation of these skills and abilities within the CM&QS programme would benefit from a review of the development and delivery of parallel professionally accredited degree programmes. Eraut
considers that all of the above can be developed and demonstrated outside the working environment and that this is sometimes a better solution.

**Methods of implementation**

Traditionally universities have usually dealt with knowledge rather than skills and abilities. However, the implication of the survey is that a theoretical approach is not appropriate nor sufficiently helpful in allowing students to acquire the necessary skills and abilities required of the commercial manager.

It is recognised that the formal lecture is not perhaps the most appropriate method of student learning. While there has generally been a move towards the use of tutorials, seminars and student-centred or project-based learning, it would appear that more attention is required in focusing on student learning than teaching if a student’s capability in commercial management is to be developed. The following are ways in which this may be achieved:

**Team work and Outdoor Management Development Courses (OMDCs):** Betts and Liow (1993) suggest that working in groups on projects is more related to the real professional world. It is likely to be more useful in employment and assists in the development of communication skills. Further, they suggest that at an interpersonal level, active participation with feedback prepares students to contribute ideas and develop leadership qualities appropriate to their chosen profession. Also, Boud (1989) suggests that much learning within a group-centred approach occurs from interaction between group members. Further, there is usually an emphasis on democratic decision making and the consideration of different points of view within the group, whilst the development of the group itself is often a focus of learning.

**Role-play, Simulation and Games:** Entwistle (1992) defines simulations as activities that are designed to mimic real-world experiences and provide, for example, controlled opportunities for exploring actions and their consequences in teaching problem-solving. Additionally, the opportunity to engage in role play allows students to take on the identity of someone else thereby gaining insight into the motivation and feelings of that person, something that no lecture or discussion could ever provide. Lansley (1985) put forward the case for a games-based simulation approach within building education. Ndekugri and Lansley (1994) discuss the benefits and advantages of simulation within construction management: those that seem pertinent to the delivery of commercialism within the curriculum include:

- a decision support system;
- a vehicle for teaching theoretical concepts in construction project management;
- a tool for training and management and organisational development;
- an instrument for team building.

Games, on the other hand, are similar to simulations but introduce a competitive element where there are rules, points are awarded and there are winners and losers.

Lovell (1980) is of the opinion that both games and simulations enable students to learn by experiencing at first hand at least some of the elements of realistic problems. He considers them to be ideal for illustrating how systems work and drawing attention to cause and effect. However, he points out that role-play, simulation and games need to be followed by periods of discussion, evaluation and rethinking in detail of the way the exercise was approached. Therefore, if debriefing is not incorporated and students do not attempt to integrate their
experiences with their previous knowledge and understanding, then these exercises are a waste of time. Moreover, the closer to reality that a role play, simulation or game becomes the more successful it is likely to be.

It would appear, therefore, that simulations do stimulate and develop both thinking and interpersonal skills but only when the processes are explicitly discussed within the group.

**AROUSAL (A Real Organisational Unit Simulated as Life):** A development of simulations and games is the use of computer simulations such as AROUSAL developed by Lansley (1985) which recreates the decision making environment in which construction companies are managed. The areas of decision making modelled by the system include:

- corporate strategy regarding type, size and location of work to focus on;
- bidding;
- cashflow management;
- recruitment and termination;
- staffing of projects;
- tempo of working on contracts (normal or crashed);
- salary administration etc.

A further sub module focuses on the decision making processes involved in the management of sub-contracted work and sub-contractors. The application of computer simulations such as AROUSAL seems to be a way in which realism and a commercial attitude can be replicated within a university setting.

**Supervised work experience:** The incorporation of supervised work experience in the form of 'thick' and 'thin' placements has been central to the philosophy of the majority of QS degree programmes. The CM&QS programme incorporates the requirement for students to undertake 46 weeks of supervised work experience. Ashworth and Saxton (1992) suggest that placements should develop maturity; enable the exploration of the theory-practice link; encourage the development of critical but pragmatic thinking; and facilitate systems thinking. However, for this to take place placements should be treated as providing genuine educational experiences.

Further, they raise the following questions:

- how can such placements be managed so as to give maximum benefit to the learner?
- what is the role of the supervisor at the workplace?
- how can students be encouraged to reflect on the situation and to develop learning opportunities themselves?
- what is the role of the visiting tutor?

They suggest that typically students are unprepared to make best use of the placement as a learning opportunity. Further, in the past there has been much criticism of work experience, derived from the difficulty in ensuring that all students obtain valuable experience that relates to the academic or professional content of the course. (Entwistle, 1992)

Entwistle suggests that the following are the three most difficult problems in providing effective work experience:
• ensuring an appropriate match between the academic content of the programme and placement activities;
• ensuring that mentors are able to provide the necessary support;
• assessing the work experience in ways that are comparable between students and also describe the skills developed.

Ways of overcoming these problems include:

• the use of learning contracts, which describe in detail what the student has agreed to do (Entwistle, 1992);
• the inclusion of the work based mentor in the negotiation of the learning contract enhances involvement with the student (Entwistle, 1992);
• recognising the need for formal assessment is essential to give work experience its appropriate status within a degree scheme (Entwistle, 1992);
• the use of Personal and Academic Development Plans (PADPs).

Problems in implementing changes in the method of delivery of university based degree programmes

Betts and Liow (1993) discuss the problems of replacing a traditional didactic approach to university courses with more active learning. They comment on the need to get conservative staff and students to change, particularly as both groups perceive project work to be a high risk activity compared to traditional teaching methods. In addition, the assessment of project work is problematic. Attempts have been made to introduce courses that are designed to analyse the operation and needs of the construction industry by introducing a series of events through which students develop the ability to deal with uncertainty, take control of their learning and develop an ability to be 'reflective in practice' (Boyd and Wild, 1993). However, this innovative course is at Masters level and is designed for entrants with prior experience of the industry.

The introduction of a more experiential problem based learning environment has implications for academic staff. As Packham et al. (1989) point out staff are no longer seen as the sole controller of learning; neither are they the sole source of knowledge. The roles of staff are:

• to provide support to the learner;
• to provide access to resources for learning;
• to provide critical feedback to learners;
• to assist in student assessment.

Boud (1989) suggests that there are major implications for the training of experiential educators and the design of courses. A CNNA funded research project into improving student learning (Gibbs, 1992) concluded that:

"... while different courses revealed different patterns of learning and individual differences are extremely wide a surface approach is common, that assessment dominates students' thinking to a considerable extent and that some assessment systems clearly reward a surface approach. However it would appear that it is possible to change students' approaches to learning as they seem capable of adopting either a surface or deep approach but it is easier to do this early in a course than towards the end. It is necessary to increase students' intrinsic motivation without
increasing extrinsic motivation and that the appropriate focus of attention in improving the quality of student learning is course design and process rather than teaching and content."

In summary, the implication of the investigation was that a theoretical approach would not be the most appropriate method of helping student acquire the skills and abilities attributed to the commercial manager. It was evident, therefore, that despite a general move within higher education towards the use of tutorials, seminars and student centred or project based learning, to develop a student’s capability in commercial management more emphasis was required on student learning rather than in providing teaching.

CONCLUSIONS

Commercial management within the construction industry was defined as `looking after the profits of the company... by keeping costs to a minimum and maximising income.' The study has shown that the following skills and competencies are inherent to commercial management: logical thinking; analytical ability; numerical skills; the technical skills and knowledge associated with quantity surveying. In addition to these skills a `good' commercial manager was thought to be competent in: managing the company or project cash flow; taking a broad perspective and thinking laterally; analysing risks, which incorporates being proactive, assessing the potential cost of a risk and solving any problems associated with it; negotiating; communicating and team working. In addition to this PQSs believed that an understanding of development appraisal, understanding market forces and choosing the right procurement strategy were important for a QS in private practice. There was, for the PQS, less emphasis on cash management unless the individual was in a management position within the practice.

Finally, the investigation led to the consideration of how these skills and abilities could be acquired through a course programme. Methods that focused on student learning, in particular experiential learning, were incorporated into the programme. These included an outdoor management development course, role-play and simulation, and supervised work experience. However, to maximise the student’s ability to learn from experience, an introduction to personal and academic development planning and other methods of improving learning ‘by doing’ were provided.

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REFERENCES

Ashworth, A (1994) 'Education and Training of Quantity Surveyors' Construction Papers No. 37 The Chartered Institute of Building, Ascot


Barrie, G. (1995), 'The Top QSs Struggle to find Graduates'. Building. 29, 12.


Entwistle, N (1992) 'The Impact of Teaching on Learning Outcomes in Higher Education: A Literature Review' CVCP


Gibbs, G (1992) 'Improving the Quality of Student Learning' Technical and Educational Services, Bristol


RICS (1992) 'The core skills and knowledge base of the quantity surveyor' The Royal Institution of Chartered Surveyors, London


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Appendix A

Tasks

Paperwork

Two to three hours a day tends to be spent dealing with paperwork. This consists of:

- reading all in coming mail. This is thought to be necessary as it provides the opportunity for the commercial managers to be kept up to date with all sites. This broad perspective is thought to be important to make sure any problems are identified as early as possible. Where necessary, any actions derived from the mail are then delegated to other members of the team;

- writing letters and memos. A large amount of these are to subcontractors to keep them informed of any variations, or to respond to any claims;

- preparing reports. This usually involves collating financial and progress reports from sites and presenting it to clients and senior members of the management team.

Meetings

Meetings include:

- formal and informal meetings with site staff involving discussions about progress, costs and potential problems. They often involve walking around the site to check on progress, assessing risks, identifying problems and finding solutions;

- meetings with clients to discuss progress and to negotiate payments;

- formal meetings with senior management to discuss financial reports;

- negotiating with sub-contractors and solicitors in an attempt to resolve disputes.

Managing cash flow.

This is predominantly about making sure that the site is making a profit. It has been described as ‘good housekeeping’. It involves making sure that the sums of cash coming in are higher than those going out. This incorporates a number of aspects:

- agreement of sub-contractors' terms of payment so that the sub-contractors are paid after payments have been received from clients. It also involves the analysis of the site evaluations to determine what the payments should be. Having the ability to spot excessive claims or work not done is important in relation to this area.

- assessing tenders for possible risks and attempting to minimise those risks so that any financial cost is minimised.
Appendix A

forecasting cashflow. This involves the production of weekly or monthly turnover and profit forecasts, taking into account any variations and anticipated increased costs.

negotiating payments with clients. In some situations costs may increase. It is the responsibility of the commercial manager to obtain any money due from the client where necessary. The commercial manager also needs to agree final accounts in relation to both the client and the subcontractor.

Procurement

This involves analysing information in the tender. The works are split into packages. A scope of the works and a list of possible sub-contractors are drawn up for each package. The commercial manager will research into the sub-contractor's background to make sure that they are financially reliable and provide a quality service. The sub-contractors are then sent an 'out to tender' document. It is felt that a degree of commercial awareness is needed to decide how to split the packages up.

Analysing Tenders

This incorporates:

- assessing the risk involved in tenders. This involves spotting potential problems, identifying the problem and managing the situation such that the problem does not come up in the end product. An analysis is made as to whether the risk outweighs the profit;
- establishing whether a client is financially sound;
- analysing the content of sub-contractor tenders to establish what aspects are included in the final figure, then establishing which will provide the cheapest quality service.

Dealing with Disputes

This involves investigating claims from sub-contractors, usually in the form of collating information, usually from company records and analysing the information to determine who is right. Decisions then need to be made about how to progress. For example, to back down and pay the sub-contractor, to try to negotiate a payment or to take it to arbitration/litigation if no solution can be found.
Appendix A

Competencies

It was assumed that a good QS will have the following four skills, which are therefore inherent in a commercial manager. These four skills are considered prerequisites to the remaining skills listed.

**Analytical skills**

This is the ability to analyse information presented in numerical and written format.

**Numerical skills** (Interpretation rather than calculation).

This is the ability to interpret the numbers in cash reports, tenders and the like. If a commercial manager is weak in numerical interpretation then the ability to interpret information in tenders and evaluations and the ability to forecast future cash flow will be inadequate.

**QS technical skills**

Essentially the basis skills of a QS, which include compiling contract documentation, measurement and evaluation.

**Logical Thinking**

It was felt by all of those interviewed that to be a good commercial manager an individual needs to be a logical thinker, as many of the other competencies will interact with this competency. (For example, to be able to analyse risk then one needs to be able to think through all possible options and outcomes in a logically systematic manner). The following skills are those that a commercial manager needs to be able to perform the job well. They are in no specific order except that those that are considered more important to commercial management come towards the top of the list.

**Cash Management**

This is the ability to analyse and interpret numerical information and then forecast future cash flow. It has been termed 'good housekeeping’. It is about applying common sense to manage the cash flow. Examples given are not paying the sub-contractors before the client has paid you. It is the ability to save and make money outside of a framework.

**Broad Perspective**

Commercial managers should be able to show a broad based view of events, issues and activities and perceptions of the long term impact and wider implications. Examples given of this broad perspective are: understanding the importance of the cash flow that construction generates to the rest of the company; recognising that it is better to try to solve a sub-contractor dispute through negotiation rather than litigation as there are implications for the company in terms of cost and reputation.

**Risk Assessment.**
Appendix A

This is thought to be heavily related to the commercial side of the commercial manager’s role and complements the broad perspective that a manager should have and their knowledge of cash management. A commercial manager should be able to identify constantly any possible risks inherent in tenders, sub-contractors and clients and find ways to minimise that risk.

Examples given were, if there is an intricate brick work design required on a job it, then the commercial manager should be able to assess that even though it will cost more money a specialist should be brought in to do the brick work because it may save money in the long run.

Negotiation

This skill incorporates persuasiveness and is a combination of both interpersonal skills and problem solving ability. The manager should influence others in a way that results in acceptance and agreement. It is considered important to know the rules of negotiation, when to give away small points in order to win bigger ones. It is having the ability to know when and how to put people at ease and also when not to. This can also involve knowing when to be flexible and move away from procedures when necessary. An example given is: when interviewing sub-contractors one needs to make them feel at ease, so it is best not to have a desk in-between you and use very open gestures. This way they will be more likely to open up.

Oral and Written Communication skills.

This was considered important as many of the problems that occur on site are due to poor communication. Commercial managers need to document important decisions on site to avoid the risk of misunderstandings and associated additional cost. A record, therefore, is kept of everything for future disputes.

Organisational Skills

This is the ability to organise oneself and other people. It involves co-ordinating different tasks and individuals

Ability to be proactive

This skill is thought to be related to risk analysis and having a broad perspective. A good commercial manager needs to be proactive about finding out information in order to acquire a broad perspective and to be informed about any possible risks or problems.

Team Working

This is the ability to work with a group of people. This can involve delegating tasks to different members of the team.