

Capital Knowledge

The Role of Planning and Portfolios in Materials for Teaching and Control

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Abstract:

The portfolio concept was initially developed within the learning knowledge and now constitutes an important planning tool to ensure an overall strategic perspective on the flow of materials in the teaching process. This paper contends that this concept is also relevant to the capital knowledge, and describes the development of portfolios methods to manage the flow of materials from subjects area with goal and objectives to installation onsite, and its application to a Al-Zaytoonah University of Jordan & Applied Science University, The Colleges of Economics and Administrative Sciences Project. The case study evidence suggests that the focal point of portfolios concepts are the interfaces between parties, and exchange of information, and development across project organisational boundaries based on partnering-type arrangements. The management of the flow materials from the portfolio point of view also requires early planning of selection of materials, and in more detail, than is required in the traditional approach to materials procurement.

Keywords: capital knowledge, planning, portfolio, materials flow

1.0 Introduction

Materials delivery to JIT is a critical, a productivity-related aspect which demands the introduction of a carefully developed system of monitoring and control as early as possible

2.0 Definition and scope of portfolios

The supply of building materials of capital knowledge (CK) and components to JIT are fraught with obstacles that can have a significant affect on level of productivity. Building materials of Capital Knowledge often require large storage of knowledge capacity, which is rarely available on most sites (Robert, 1994). Storage of knowledge facilities are usually temporary structures or compounds and conditions in which the materials are kept often leads to damage from ingress of knowledge and movement of students, culture and equipment of learning (Bain, 1997).

Unless stringent quality control systems are followed, materials not meeting specifications may arrive on site and may have to be returned to the fabrication capital knowledge works, thus halting production and in the worst cases leading to plan delays.

The varying workload of the capital knowledge and its consequential disruptive effect on the material supply position often creates supply "bottle-necks" that make a planned flow of materials difficult if not impossible. Storage of knowledge has to be related to the sequence of assignment to ensure the minimum of movement and handling.

This paper examines the key issue of material supply planning and portfolios, and how may benefit the capital knowledge. The first part provides a background to the planning and portfolios concepts. In the second part an example is given of the application of portfolio concepts to the Al-Zaytoonah University of Jordan & Applied Science University, The Colleges of Economics and Administrative Sciences-Department of Business Administration as a building materials of Capital Knowledge process.

This includes a description of the implementation process, the problems encountered, and the roles of the participants in the application of portfolio arrangement.

Planning and Portfolios are such as art of moving, lodging and supplying troops and equipment, (Cohen, 1976, 1978, 1994). As stated, portfolios would appear to be limited to the military (Cooper, 1979). It was only with the onset of the Industrial Revolution that the concept of portfolios extended beyond its military context. In business, in education, portfolio activities commonly involve movement and storage of knowledge for the purpose of having the desired object of flow at the right place at the right time (Daly & Worrell, 1993). Transfer and distribution are cornerstone of portfolio and its most visible manifestation

2.1 Portfolios in the workplace

Learning knowledge portfolios were originally developed as internal process, but with the increasing distribution of referencing processes the focus today is much on external portfolios and synchronisation between parties in the supply-lesson chain. In this context, Al-Juboori et al. (1997) identified two different portfolio principles: portfolio by planning. The main difference between the two is that by planning, the foreseen consumption is calculated and materials ordered and delivered accordingly, whereas by consumption storage of knowledge is refilled when a certain minimum level is reached. For a number of years, most portfolios have been based on other on of two principles only. Today a two-level approach seems to be preferred: a planning approach at the overall level and consumption approach at the day-to-day operational level (Knowles, 1975, 1990).

A special form of portfolios by consumption is Just-In-Time (JIT) materials management, where emphasis is also placed on overall planning undertaken by management together with day-to-day operations carried out in the workplace (Ibid-1997).

JIT portfolios were developed by the Japanese automobile manufacturer Toyota as an essential part of their production system. The basis of system is the absolute elimination of waste. Two pillars support Toyota's production system: Just-In-Time and Automation (or automation with a human touch) closer co-operation between suppliers and a zero-error quality management system are also important elements of the Toyota approach. (Cohen, 1994).

It is these principles, notably JIT-adapted for the knowledge building process forms the basis of the portfolio concept presented in this report, as with the Toyota production system building knowledge portfolios aim at the reduction of the outcomes through the elimination of waste.

2.2 Portfolios in the Teaching Process

Material teachers' and whole-paper student's portfolios are similar to those found in teaching and whole learning activities. In particular, they can be considered as belonging to such assessment and to operate in a similar manner. In the capital knowledge, portfolios activities are dictated by tutors and learners, who are aim to minimise the outcomes of module to site without considering handling outcomes. These practices are often overlooked contracting by PLPCs (Personnel Learning Plan using Learning Contracts) to their detriment.

In capital knowledge, portfolio principles are rarely applied on systematic basis. For most materials read, the planning of deliveries is undertaken on ad-hoc basis.

This can lead not only, frequent delays and loss of time but also to additional outcomes associated with express deliveries. Reading materials at the lowest possible learns is another strategy favoured by students' "contractor's module assignments' PLPCs that would be done between student and module leaders, that as I called is just like "contractor's procurement department"- "assignment department", particularly if student discounts are offered for bulk reads.

As delivery of materials is seldom scheduled, as part of the building knowledge process each delivery becomes unforeseen event added to the general disorder on site. The result is interruption to the work schedule, extra handling, breakage and loss, in addition to the requirement for extra storage of knowledge capacity. In selecting a method of packaging, the knowledge storage on site, movement to the lesson class or workplace, are all aspects to be considered (Krantz, 1995).

The section below describes how portfolios concepts were adopted and applied a capital knowledge project in Al-Zaytoonah University of Jordan & Applied Science University, The Colleges of Economics and Administrative Sciences- Department of Business Administration.

3.0 Description of Capital Knowledge project

The 'project' described in this study relates to Department of Business Administration Modules. This comprised the first stage of the teaching of Marketing Strategy, Corporate Strategy and Strategic Management of 160 page -subject module facilities. Dean has overall responsibility for provision of

social teaching process. There are specific rules governing teaching reads, In this case teaching in that department could not exceed certain predefined load.

Both module elements and traditional material were not used in the Business Administration department. The degree of prefabrication as well as the general standard of the project and quality of the materials was typical of teaching process; (Mezoff, Cohen & Bradford, 1979), the total traditional business Administration modules was proximately more than 19 case study and total references, and assignment by PLPCs. But, the programme duration was ended through four years.

4.0 Tendering Procedure and Design Process

In the case publicly funded teaching practice project it is obligatory to use an open tendering process to ensure the most work bids. However, an exemption to this rule was made for the college of Economics and Administrative Sciences project. This was because the project was of an experimental nature. Apart from the main students in department, the material's tutor, and the sub-management sciences and strategy involved in implementation of the portfolio model, all other parties were appointed on a lesions plan tender basis.

The college programme produced the concept design in collaboration with the department. Modules and materials are produced concerning with department's modules, that working designs was then produced by materials and cases, as a guide for student day/evening-time studies to the learning a plan, and to some extent in collaboration with main programme director and students. The main programme director and the students were actively involved in the planning and design process.

The aim was to implement a "buildability" approach during the design phase. Striving for buildability was a vital part of the portfolio concept. The materials and portfolio methods were chosen/ designed to minimise 'production', transferring and wastage on site; for example, the project management model was designed to match the standard dimensions of module study material (Miller,1990).

The first phase of portfolio experiment focussed on two specific sub-modules: strategic analysis such as setting objective, strategic position, development strategies. etc.. Students were met on lunch break and a 'buildability' material was implemented on them. These materials were approved by the programme direction and they do not form the part of the portfolio model. The total number of students who were administered with buildability' material is 30 comprising students from management and sub-modules studies.

5.0 Development of the Portfolio Concept

The portfolio concept was developed in to improve organisation on -JIT as well as the course process as a whole. At an early stage, the programme identified the need to organise the process and to plan the flow of materials from references to installation on-site in a more efficient manner. An important element of the portfolio model was the formation of a part-

nering arrangement between the project participants.

The development of the concept was inspired by a number of studies undertaken in Iraq, UK, Finland... These studies indicated that low levels of productivity were the result of poor planning and portfolio (Al-Juboori. 2004). Through the course period adding further identified a number of problems in the Department of Business this including:

- Delay on site, wastage and breakage’s of materials together with unnecessary length of time wasted in teaching practice period and student were a common experience; Administration (Miller,1991).
- A teaching material site was the worst possible portfolio facility, nevertheless very vulnerable teaching materials are quite often supplied in full loads exposed to the elements and pilling (Naumes, 1993).
- Materials handling techniques were not taken in to account during the design phase (Obert, 1982).

Having identified the problem areas, a detailed plan of action was developed for the teaching of the project development. The portfolios concept would not only be a materials management tool to read the right quantity of materials at the lowest time, but to read the right quantity of materials including all module area to get it delivered, to the right location on-site and Just-In-Time for installation.

Deliveries of materials would be co-ordinated by the programme according to an agreed portfolio approach, students and We would be responsible for arranging simplification and

- Planning for site activities;
- Deliveries of materials to site;
- Number of changes to the detailed design;
- Re-work during the sources of students in construction stage of capital knowledge; and
- Site working conditions.

To facilitate improvements during the construction phase of capital knowledge of the study a number of practical measures were adapted. These included

- Limitation on the transferring of materials within the site boundary of topic;
- Avoidance of ‘‘stock paper’’ on site;
- Avoidance of wastage of materials;
- Avoidance of missing deliveries and returned assignment; and
- Decrease damage during course.

Portfolio management tools	Description
‘Materials Teachership’	What and how, why, who; responsible for managing organisation, during the course process
Supply Plan	Supply plan indicates the proposed delivery dates of units for the whole teaching planning. This plan is specified by materials ‘teachership’ with each students
Request Schedule	A detailed version of the supply plan covering a three level period. The schedule of draws up by the students in ‘teachership’ with each student.
Unloading Plans	These plans indicated where daily supplies (units) would be delivered to on-site
Assessment Specification	An assessment is package of materials required for one working operation within one assignment at one module on the course site. The whole course was divided into units. Individual sub-teacher specified the content of each unit. The materials suppliers in conjunction with the materials co-ordinator specified a unit plan.

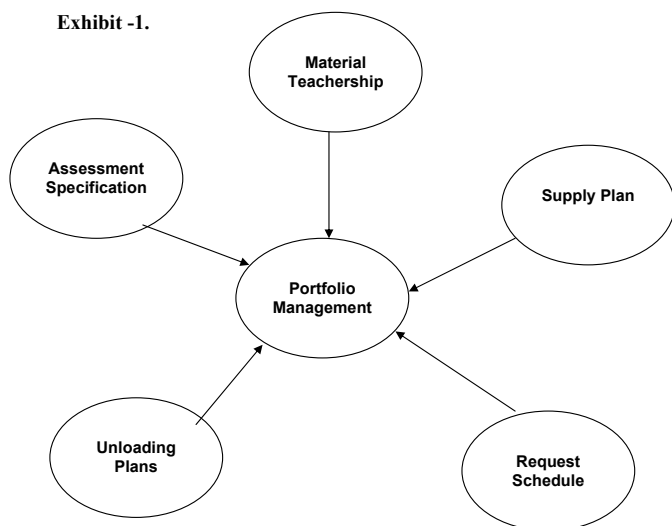
The description of the components of the portfolio management tools are provided in table -1 relevant to the model provided in Exhibit-I.

Table 1 Components of portfolio management concepts
6.0 Planning Process

The key individual responsible for materials control during the applying for a teaching was identified as the ‘material co-ordinator’. The whole teaching period was divided into lectures. The content of each lecture was specified by module leader, met the students, and lecture plan by the materials students in conjunction with the ‘‘co-ordinator’’ in the same module is programme director.

A number specified each lecture in the supply plan by its contents, by its student and also by module leader at the receiving end (Pendse, 1985). The contents of each lecture were specified either by its figure number or by type of material (Putzel, 1992). The lecture plan stated the time required for delivery, the method of transferring of knowledge and equipment required for delivery, together with details of packaging.

Exhibit -1.



managing the information,(O’Brien& Buono, 1996). Based on these issues reported the model of portfolio management tool is developed as a part of this exercise and is shown in Exhibit-1

5.1 Practical use of the Portfolios Concepts

The portfolio concept was developed to improve a number of aspects of an assignment and teaching process. The programme identified several criteria for consideration. These included:

The supply plan included a description of the module and details of their proposed delivery date. This allowed student to place orders with lecturers at an early stage. Because the amount of storage of knowledge space required be reduced, students were able to pack lectures into ready-to- use packages in accordance with the lecture plans. The student had details of orders in advance of delivered to site lesson, however, were not delivered to sit until they were requested by the materials co-operator (Raab, 1997).

This was undertaken two weeks before the scheduled time of delivery or on the actual day of delivery if amendments were made to the module schedule. The portfolio model allowed the programme director to change the supply plan according to progress on site.

7.0 Merial flow control process

During the teaching practice phase, weekly material control meetings were held between the site department team, the students face-to-face and the material programme director. During these meetings weekly forecasts were broken down to identify daily material requirements according to the material plan. This was undertaken to identify the precise requirements two weeks in advance, and whether corrective action would be necessary in the third phase.

The request schedule was therefore a sliding window in the supply plan, where material supplies three phases in advance were identified, supplies two weeks ahead were probable and supplies in coming phase were requested (Rice, 1958).

The request schedules were supplemented by unloading plans indicating where daily supplies would be delivered to on-sit. This allowed the student to load lecture into the lecture ready for study delivery and in correct sequence (Rice, 1965).. At the same time, equipment required for unloading was identified as well as details of any special conditions on sit on that particular day.

8.0 Overall assessment of teaching project

Compared to a traditional approach to material design and teaching practice, timing savings were made throughout the duration of Faculty Project. Table 2 shows the effect of portfolios planning on total teaching practice times.

In spit of extra reads associated with the portfolios concept, including additional measurements and the use of ‘micro-reading and teaching’, total savings amounted (10 per cent) of teaching practice times during the first phase of the experiment. Savings were achieved through a reduction in materials wastage and breakage’s and early (Rioch, 1985) completion of the teaching practice. These calculations were undertaken by PLPCs design-Table Time. The methods of data collection are described below.

Table 2 Effects of the portfolios planning on total teaching timings

	Factor A Timing savings (%)	Factor B Extra time incurred (%)
Reduction in wastage and breakage's	8	
Reduction in working days	5	
Materials co-ordinator		1
Micro-reading and teaching		1.5
Measurement		0.5
Sub-Total (%)	13	3
Total timesaving (%), Factor (A-B)_		10

The materials co-ordinator kept a diary throughout the duration of the teaching process. This included a record of all information deliveries to sit categorised by sub-co-ordinate or we can say that (sub-lecturer). The key element of the evaluation process was the registration of unforeseen ‘incident’ relating to material deliveries. This information was collected by ‘co-ordinator’. The ‘incident’ record was divided into two categories: who was responsible for incident? What action had to be taken and whom? The times of each ‘incident’ were then calculated by the co-ordinator in conjunction with subcontractor and students. Opinions on the use of portfolio approach varied from one faculty to another, but were generally favourable. Sub-contractors expressed their approval for portfolios planning, even through they felt that the ‘materials co-ordinator’ was an unnecessary link between the subcontractor and the materials teacher (Rogers, 1969). The subcontractors were more used to have direct contacts with teachers: without their working practice towards a more planned and less ad-hoc approach (Salzberger-Wittenberg& Osborne, 1983). While management subcontractor and programme director expressed their approval for portfolio planning, the students of basic management material (i.e. materials and lessons plan) were more critical of the approach. One reason given was the need to increase the number of student’s an introduction of the strategic management (case study and Financial analysis for case study) to sit due to the types of lessons and Just-In-Time requirement. All parties found the lesson plans and delivery plans very useful, but emphasised that these lesson plans tools should be kept as simple as possible and user-friendly.

Involvement in the portfolio concept was purely voluntary. Several subcontractors opted out of the process from the outlet of the teaching practice project. This led to a number of problems during the teaching practice phase. For example, when written the materials of Marketing and given to Module leader I have seen a large quantity of marketing materials it was delivered and insulation in bulk and offloaded in a careless manner very close to scaffolding where work was in progress (Senge,1990). This cased a considerable amount of disruption on site. Furthermore, while remaking insulation in bulk made an initial saving, this was offset by due to wastage. The capital knowledge illustrates what appears to be a common but so problematic procurement strategy. Sub contractors traditionally acquire materials and components from teachers and students at the lowest possible teach (Spencer, 1995), without careful consideration of the times associated with handling and production on-site: what savings may be made initially are OFFSET by traditional work during the teaching process (Tang, 1993). Therefore, any alternative

strategy must be based on 'HOLISTIC' view of assignment and the planning and control of material deliveries.

9.0 Conclusion

This work has described the portfolio concept and development of portfolio concepts to manage the flow of materials from the teachers to installation on-site, including its application to a teaching process and project of department. The advantages of using portfolio measurements on the teaching process project and whole assignment in the contact phases with our internationalisation process of capital knowledge were recognised by all participants. The requirement for a high quality products, and overall savings were provided by a process of planning sit activities based on a strategy to ensure that materials were handled, transferred and kept as little as possible. It saves 10 per cent when compared to a similar traditional project. This success was not only based on integrative approach to materials control, but also on the 'new' (non-traditional) roles adopted by the participate during the PLPCs design and teaching practice phases of the study. The primary focus of the portfolio concept in teaching is to improve co-ordination and communication between study participants during the PLPCs design and teaching phases, particular in the materials flow control process. The module study evidence suggests that the focal points of portfolios are the interface between the boundaries based on partnering-type arrangements. The portfolio approach involves a new role for the materials students; including early involvement in the PLPCs design phase and overall responsibility for flow of information relating to materials. Communications between materials suppliers and recipients should such that details regarding transferring, eventual sit location, order of information delivery, labelling and packaging sizes should be available to all those involved.

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