

## **The economical dimension of sustainable design: a focus on Cape Town, South Africa**

S.C. Warden wardens@cput.ac.za

**Keywords** - Sustainable design, regeneration, business precinct, innovation, education.

Sustainable design has many dimensions and tends to be more of a philosophy integrating a vast array of design solutions to minimise waste. Of particular interest is the economic dimension to facilitate sustainable design by regenerating old industrial regions or towns to be restored from a former rundown state to overcome their historical legacy. The industrial structures are usually more suited to nineteenth or twentieth century than the demands of the 21<sup>st</sup> century. These areas do not provide pleasant, livable and well-working opportunities for citizens. A limited view is often linked to local traditions that remains tightly bound by local identities, products, way of life and even legislation and laws. There are some success stories such as Barcelona, Milan, London, New York, Beijing and others which have overcome some of these limitations or have found workaround solutions. This paper investigates the economical dimension of sustainable design in the form of regenerating Cape Town where such an initiative has been launched for entrepreneurs, citizens, students, investors and visitors. Research and education were identified and explored as contributing elements in the economic dimension of sustainable design.

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## The Economical Dimension of Sustainable Design: a focus on Cape Town, South Africa.

### 1 Introduction

There must be as many models and guidelines proposed in literature as there are old areas in need of regeneration. It appears that community regeneration is placed high on the agendas of these initiatives. For example, the Newport (UK) City Council in partnership with local communities, obtained funding from the European Regional Development Fund (ERDF) where some of the objectives for the project were; improving the physical environment and amenities, improve civic pride, and awakening of renewed awareness of sustainable design opportunities (Newport 2009). Newport environmental enhancements included new road railings, gates, open spaces, gardens, public artwork, bins, street and walkway lighting, seating, tourism, ICT and multimedia activities. These attributes of new developments highlights the challenge of *designing living systems* (Matyear, 2007 cited by Borschke, 2007).

Architects are often more focused on the built environment, but the translation to sustainable design has emerged and holds major impacts on views of architectural design aspects demonstrated by architects such as Alexandra Matyear (Matyear, 2007), Caroline Pidcock (Pidcock, n.d.) and others. Bold revelations by Pidcock are that “sustainable design is about creating environments that allow people to live, work, play in such a way that the opportunities will not be compromised in future” (Pidcock, 2007. cited by Borschke, 2007). Urban regeneration has many pitfalls such as demolition of historical structures and relocation of people. People should ideally be relocated to their original sites after regeneration activities (Banoo, 2009). Another pitfall is gentrification that emerged in the case of the London Docklands development. Although 22 sq km of East London was redeveloped and brought in new middle-class residents, shops, food and beverages outlets, the former inhabitants could not return due to the increased cost of living.

It is becoming an accepted phenomenon that sustainable design is not a strict set of rules or particular technologies to implement, but more a paradigm shift away from where current engineering and design practices are at. It is not in the scope of this paper to delve into aspects such as product development using potential waste as future resources or other issues, but on the economic dimensions to facilitate sustainable design aspects. These regeneration activities are not a new phenomenon and an acceptable recipe for regenerating old cities and areas. Two further examples are cited, Hawaii and Tasmania respectively:

- The State of Hawaii strived to create an environment conducive to the start up and growth of new business ventures with a view towards economic growth and diversification. Opportunities are offered to small businesses in high technology sectors and the film industry, including a streamlined business registration process, tax credits, subsidies and exemptions (Hawaii, 2009).
- Similarly, the Department of Economic Development, Tourism and Arts in Tasmania dedicated the assistance of small business growth in Tasmania. Information is made available to find valuable resources from the Department and other organisations that can help overcome many obstacles to business expansion. An Innovation, Science and Technology unit now assists Tasmania's business innovators, scientists, researchers and entrepreneurs to develop and commercialise their intellectual property, products, processes and services (Tasmania, 2009).

### 2 Cape Town – South Africa

Cape Town has been called amongst others, the Design City for some time. The creative industries have steadily gained momentum over the past few years and are now accepted within the South African Department of Economic Development and Tourism (DEDT). The Cape Town

Partnership<sup>1</sup> (CTP) is a collaborative initiative between public and private sectors and has been in existence for 10 years. This is similar to the @22 Barcelona<sup>2</sup> initiatives conducting various innovative tasks in Barcelona. The Cape Town Partnership is involved with many projects such as; mobilise the public and private sectors and other stakeholders around common development objectives, consolidate the Central City as the economic, social and cultural heart of the Cape Town metropolitan region, broaden access to the benefits, services and opportunities in the Central City for all the people of Cape Town, coordinate and facilitate urban regeneration programmes, guide decision-making, direct resources into solving the economic, and social challenges facing the Central City contributing to the overall economic and social development of the City of Cape Town.

The creative industries have been prioritised to develop and grow although sometimes hampered, by its complex interconnected and interrelated sub sectors (CTP, 2009). A key guiding driver is the development and strengthening of the creative industry with respect to resources such as skills, markets and linkages with other sectors. These efforts by the DEDT are meaningful drivers towards building the economy in the Western Cape (Annual performance Plan 2008-2009). A glimpse of the renewed local economy is taken from the 2009 Design Indaba<sup>3</sup> hosted in Cape Town. It was reported that a growth of more than 60 new exhibitors and 20% additional floor space were required since the 2008 event. A month before the event, at least 100 buyers had pre-registered, which included 70 international buyers. From a local perspective, there were 141 local buyers representing 65 companies, including @home, Big Blue, Milieu, Woolworths and others (CTP, 2009). The DEDT is actively working on implementing a creative business precinct programme for the creative industries in the region. These include a number the Cape Craft and Design Institute, Cape Town Fashion Council, the Cape Film Commission and others. Furthermore, the DEDT is currently formalising a design and manufacturing precinct (or hub) for the Clothing and Textile industries.

The Cape Town province investigated the feasibility of a Business Case for a Design Precinct, with the initial emphasis on the Fashion and Textile industries. This revealed a number of opportunities. As a point of departure, the exploration of a Design Precinct with a broader range of design activities was proposed and would be accomplished by establishing a Design Precinct in the Eastern side of Cape Town. Furthermore, the initial efforts are to focus on the fashion industry, comprising of a hub which would incorporate a business incubation component and provide the design and manufacturing industry with a central location and identity. In later phases of this initiative, the expansion will include other design disciplines with associated resources and facilities (Mthente, 2009).

#### **The Overall Vision Envisaged by the ECDI is:**

*The East City Design Initiative (Precinct) will become the premier African environment for design innovation, creativity and entrepreneurship within the next 10 years. It will showcase design excellence, incubate emerging talent, and enable new innovations to develop.*

*The actual and virtual space created by the initiatives provide an environment for business, the academy, the non-profit sector and government to interact in ways that develop design in the city, province, nationally and Africa wide. Its impact locally and*

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<sup>1</sup> Cape Town Partnership is a collaboration between the public and private sectors working together to develop, promote and manage Cape Town Central City.

<sup>2</sup> The 22@Barcelona project is developed in the Poblenou neighbourhood, San Martin district, Barcelona.

<sup>3</sup> Design Indaba has become a respected institution on the creative landscape and one of the few multi-sectoral events that celebrates all the creative sectors –graphic design, advertising, film, music, fashion design, industrial design, architecture, craft, visual art, new media, publishing, broadcasting and performing arts sector.

*nationally would lead to the improvement in the quality of life, improved economic growth, sustainable solutions, and a more inclusive society.*

CTP aims to develop, promote and manage the central city as a clean and safe centre for commercial, retail, residential, cultural, tourism, education, entertainment and leisure activities. Its key focus is that of facilitation and communication. Through the Creative Cape Town Programme of the CTP, the city aims to nurture, support and develop the Creative and Knowledge Economy of which there already exists more than 1 000 entities in the city centre, from architects to artists. The Central City Development Strategy (CCDS) places great emphasis on the upgrade, maintenance and use of public space to improve citizens' and visitors' access to the central city. This would include attempts to revitalise areas that have lost industrial and residential elements, and are in decline.

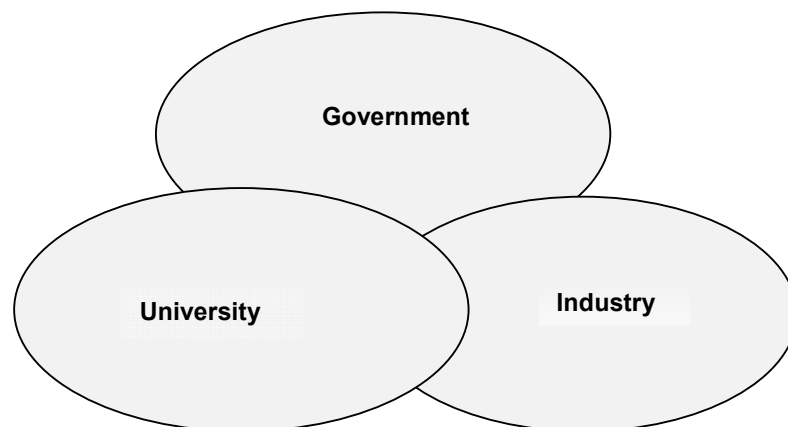
Competitiveness and innovation are key factors in the City of Cape Town's Economic Development Strategy (EDS), which determines key strategic thrusts for shared economic growth and development. Over a number of years, the Cape Town city has been supporting a range of Creative Industry bodies such as Cape Craft and Design Institute and Cape IT initiative as well as a various events. For example, R14 million was invested in Creative Industries and Cultural Industries in 2007/8.

## **2.1 A case for the East City Design Initiative**

Five main points have been proposed; reinstate the historical connection of the City to the sea, bring the people of Cape Town back into the Central City to live, improve the public transport system, provide for future growth and investment, divide the city into possibly 20 neighbourhoods – by promoting densification, mixed usage, street frontage, heritage and conservation.

A number of cities around the world have either been or are in the process of being revamped and regenerated due to lack of expandable cost effective land. The example of Barcelona has captured Cape Town's imagination and will be used quite extensively. The Cape Town Partnership is promoting the Triple Helix Model for at least until the ECDI is well established, as depicted in Figure 1.

Figure 1: Triple Helix Model (Source: adapted from @22Barcelona, 2009).



The foregoing literature has focused mainly on local and national government commitment and to some extent, that of industry. As far as industry is concerned, the Central City is responsible for more than 22.3% of the regional economy and 25% of the total City's turnover. This confirms that the regional economy is dominated by tertiary services, which in turn drives growth and employment. The Central City's role is crucial to regional competitiveness, serving as a hub for the service sector, visitor economy, creative industries and government services.

Over a 10 year period from 1996 to 2006, Cape Town's economy has shown consistent growth in the finance and business services and wholesale and retail trade sectors respectively. The growth has been up to an average of 4.1% in 2006, higher than the national average of 3.2% and regional average of 3.8% at that time (CTP, 2009). The third aspect of the triple helix model calls for higher education. This will be discussed next pertaining to ECDI.

### **3 Education**

Education plays an important role in any community based initiatives and the ECDI is no exception. The Triple Helix Model calls explicitly for higher education to be an important part of such an initiative. Education is considered an essential element and called upon to play an important part in this initiative. The following principles are proposed; developing design research to support the activities of businesses operating within the precinct, developing design research that supports the strategic objectives of the province and the city, i.e. design for development and creative communities, borders between different design disciplines are becoming increasingly blurred and the positioning of a range of disciplines within a single area would provide for the development of increasingly integrated solutions across discrete borders. The link with education institutions, and its research resources, would provide further enrichment potential for the design industry in the Western Cape.

#### **3.1 Cape Higher Education Consortium (CHEC)**

A Collaboration Protocol between the City of Cape Town and the Cape Higher Education Consortium (CHEC) representing the four universities in the Western Cape was signed at a colloquium held on 20 October 2008. This represents an important step in developing a partnership between the City and CHEC institutions. A similar document, a Memorandum of Understanding (MOU) was signed by the Premier of the Western Cape and the Vice Chancellors of the public universities in the region at an historic Summit held on 16th October 2006. The purpose of the Summit was to establish a framework for enabling the Provincial Government and the Universities to share strategies and programmes for advancing social and economic development in the region.

- To establish design hubs and incubators based on the bandwidth barn concept which would provide studio accommodation for emerging designers, while providing them with shared administrative and technical resources, such as rapid prototyping facilities, prototype and model building workshops, access to specialized equipment, and the establishment of a Textile Technology station, showrooms, and sample production facilities.
- The development of extensive networked relationships, both physical and virtual, in terms of existing initiatives, and the clustering of resources.
- Mechanisms for the provision of venture capital.
- Other creative industry related projects and initiatives that raise the vitality and interest of the area.

#### **3.2 The Cape Peninsula University of Technology (CPUT)**

The Cape Peninsula University of Technology borders on one side of the ECDI area and is well suited to participate in the ECDI fulfilling the requirement of the Triple Helix Model. The convergence of informatics and design disciplines presents a unique combination which places the CPUT in a favourable position to advance both technologically and design-driven innovation. It is thus well positioned to develop collaborative relationships with key participants in the design precinct.

### 3.3 The Faculty of Informatics and Design

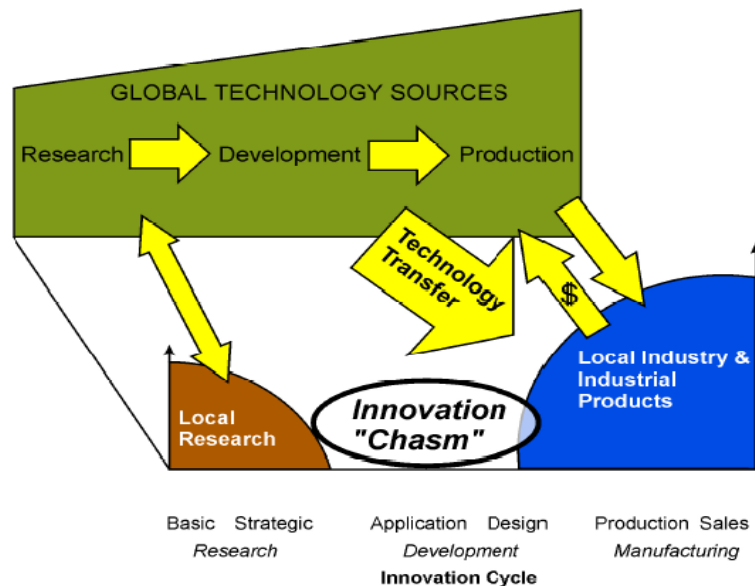
The Faculty of Informatics and Design (FID) at the Cape Peninsula University of Technology, houses one of the largest sets of design programmes in South Africa. It is the only one of its size in the Western Cape Region, and one of the only two industrial design courses in the country. The eclectic mix of design and technology programmes offered by the Faculty include; Information Technology, Industrial Design, Fashion, Three Dimensional Design, Graphic Design, Interior Design, Jewellery Design and Manufacture, Surface Design, Multimedia, Film & Video, Photography, Architectural Technology, and Town and Regional Planning.

The Faculty has recently consolidated its post-graduate programmes in one building and is now ideally situated for collaboration as it resides on the periphery of the East City Precinct. There are 27 Masters and 7 Doctoral students currently registered for Design post-graduate programmes, and several new postgraduate applications for 2010 are in progress.

## 4 Innovation Chasm

The Faculty of Informatics and Design is cognisant of the *innovation chasm* that currently prevails in the research and development landscape of South Africa. The convergence of Information Technology and Design disciplines in the Faculty is a unique opportunity to advance both technological and design-driven innovation. Whilst the Faculty has made great strides in growing post graduate programmes and improving research output, the innovation gap has not sufficiently been addressed. The opportunity to partner in the East City Design Initiative with a design focus will provide an ideal opportunity to bridge the gap, and move research outputs at various levels towards innovation.

Figure 2: The Innovation Chasm. (Source: adapted from South Africa's National research and development strategy, 2002:34).



## 5 Research question

It is eminent that CPUT as one of the founding partners of ECDI, will play an important role in providing skilled workers to the ECDI in the form of research activities and future jobs after graduation. This will have a marked impact on the economic viability of the design precinct over

the next few years. The question to consider is; *How could CPUT capitalise on the opportunity of providing graduates and provide research within ECDI to facilitate sustainable design?*

## 6 Research Method

It was deemed necessary to first determine to what extent CPUT would be able to play a role in the ECDI. Once this was established, a questionnaire was developed and used to obtain data from the FID staff in order to formulate conclusions and make recommendations.

Lucia and Lespinger (1999:5) describe competency for example, as a tool to identify skills, knowledge, personal characteristics and behaviour. In a similar vein, Mirabile (1997: 21) defines competency as knowledge, skills, ability or characteristics that can be associated with high performance on a given job. Even Gangani, McLean and Braden, (2004:1111) define competency as a description of skills, knowledge, behaviours, personal characteristics and motivations associated with success in a job. As far as *job competency* is concerned, Turley and Bieman (1995:25) posit that any attribute contributing doing a specific job well such as knowledge, ability, interest and motivation, is sufficient.

From an ICT perspective, Nieman and Bennett (2006:285) state that due to the advent of Internet technology, the use of software systems has increased, especially in the business world. Software is not only ubiquitous but also part and parcel of both small and large business organisations. Once businesses are established in the precinct, ICT infrastructure, support and specialised software would be need. In the case of Barcelona, a bold decision made that they would pursue the *knowledge economy* as their primary driver, resulted in a competitive advantage from the outset. If this is mimicked in Cape Town, significant ICT development would be needed offering challenges and opportunities for CPUT students and staff. In order to supply competent students, competent and experienced Faculty staff would be needed in order for the ECDI as a whole, to operate within the required level of expertise and interest of an educational institution staff and researchers. The author compiled a questionnaire (Appendix A) and administered this on a staff training-day in September 2009.

## 7 Findings

A good response rate was achieved and 64 responses could be used. Only questions one and two are discussed in this paper being most relevant to the research question. It is not surprising that design education obtained the highest score followed by various ICT design activities presented in Figure 3 as the Faculty also has a strong ICT component. Also interesting is the score of Public Relations being a recent acquisition where the Publication Relations department moved from another Faculty. These findings serve as a barometer indicating where Faculty staff training intervention is required in terms of ECDI involvement. This argument or stance is for example, in-line what was achieved in Barcelona where hubs based on the Triple Helix Model were created consisting of government, industry and academia interspersed in the regenerated areas.

Figure 3: Faculty of Informatics and Design Staff expertise

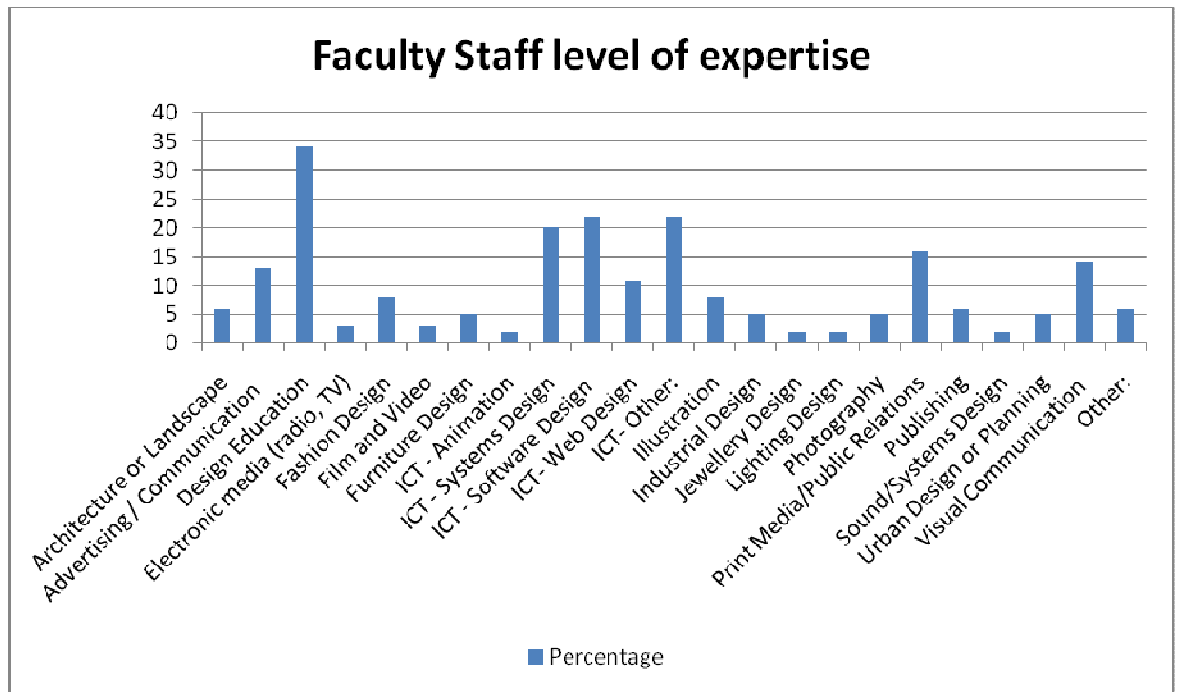
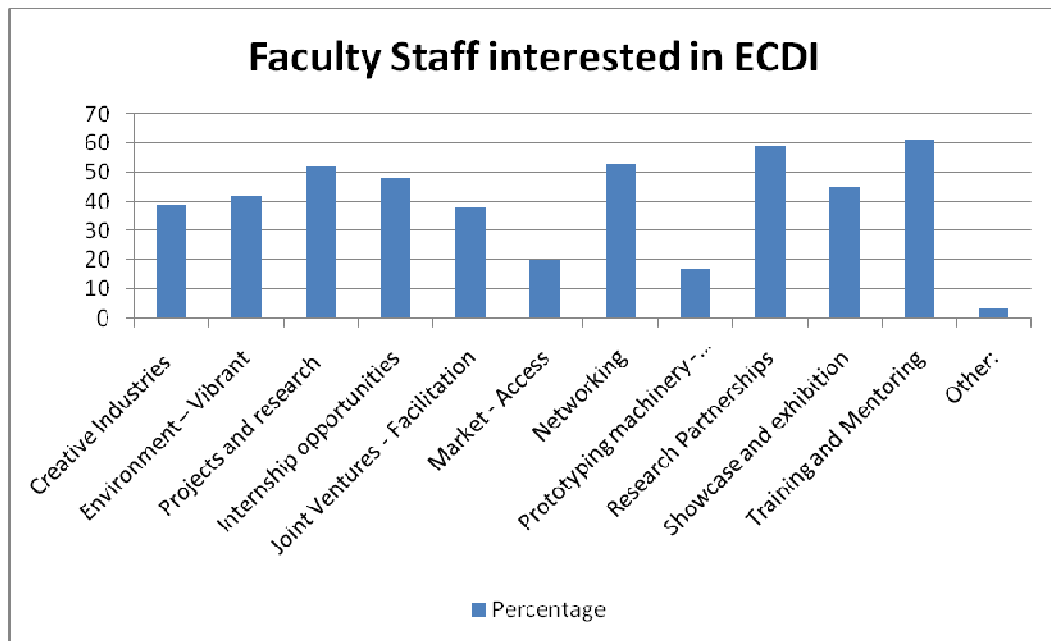


Figure 4 represents Faculty staff interest and also their willingness to become involved in ECDI. These results presented can also assist staff and their HODs to plan their future careers and at the same time be able to participate in the ECDI. Furthermore, it also indicates what type of expertise and interest would be available in the short-term during the initialisation phase of the ECDI.

Figure 4: Faculty of Informatics and Design Staff interest in ECDI



## 7 Conclusion

Question 3 of the questionnaire (not discussed in this paper) highlights the importance of student projects and research based on ECDI activities. It can be concluded that a Faculty theme should be selected for the 2010 academic year which should incorporate most student project work and staff research activities on aspects of the ECDI. This will put into practice what was found and what needs to be done in the short-term to help kick-start this initiative.

This paper endeavoured to capture lessons learned from the economic dimensions pertaining to sustainable design by exploring examples from around the world. Sustainable design dimensions were identified and mapped to Cape Town, South Africa. A sustainable design initiative (ECDI) was discussed where the East City Design Initiative has most of the required building blocks in place however, the aspect of education needed immediate intervention to assist the economic growth and well-being of the area. The Cape Peninsula University of Technology (and possibly others in the region) need an immediate focus in their efforts to provide knowledge, skill and the ability for both, staff and students to be absorbed directly into this initiative. In so doing it also provides an important economic dimension for sustainable design.

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## Appendix A

### The East City Design Initiative: A Survey for CPUT's Informatics and Design Faculty

Name: .....

Email: .....

Department: .....

1. Please rank your level of specialisation.

*Scale: 1-not specialised, 2-novice, 3-somewhat specialised,  
 4-specialised, 5-expert*

#	Which areas do you specialise in?	1	2	3	4	5
1	Architecture or Landscape Architecture					
2	Advertising and Communication					
3	Design Education					
4	Electronic media (radio, TV etc.)					
5	Fashion Design					
6	Film and Video					
7	Furniture Design					
8	ICT - Animation					
9	ICT - Systems Design					
10	ICT - Software Design					
11	ICT- Web Design					
12	ICT- Other:					
13	Illustration					
14	Industrial Design					
15	Jewellery Design					
16	Lighting Design					
17	Photography					
18	Print Media/Public Relations					
19	Publishing					
20	Sound/Systems Design					
21	Urban Design or Planning					
22	Visual Communication					
23	Other:					

2. Please rank which aspects about the Design Precinct interests you?

*Scale: 1-not interested, 2-undecided, 3-somewhat interested, 4-interested, 5-very interested*

#	Which aspects about the Design Precinct interests you?	1	2	3	4	5
1	Creative Industries (concentration of)					
2	Environment – Vibrant					
3	Engagement with the business/non-profit sector on projects and research					
4	Internship opportunities					
5	Joint Ventures - Facilitation					
6	Market - Access					
7	Networking					
8	Prototyping machinery - Access					
9	Research Partnerships					
10	Showcase and exhibition facilities - Access					
11	Training and Mentoring					
12	Other:					

3. Please rank to what extent would you like to be involved in the ECDI as a researcher and with your students?

*Scale: 1-no involvement, 2-undecided, 3-possibly involved, 4-involved, 5-very involved*

#	Areas of involvement	1	2	3	4	5
1	Academic Research Paper					
2	Collaborative or Multidisciplinary Project					
3	Poster					
4	Student Project					
5	Other:					

4. If you had an opportunity to do research around the ECDI project, what areas would you like to cover broadly?

.....

5. If you did a student project, what would be some of the issues you would like to deal with?

.....

6. What other CPUT departments would you most like to collaborate with?

.....

7. Please rank what some of the anticipated problems you may experience at trying to organise your work around the ECDI initiative?

*Scale: 1-no problems anticipated, 2-not sufficient knowledge to rank, 4-some problems anticipated, 4-definate problems anticipated, 5-severe problems anticipated*

#	Anticipated problems organising your work	1	2	3	4	5
1	Access to Businesses in the area					
2	Budget					
3	Lack of knowledge on the project					
4	Student expectations					
6	Time					
7	Other:					

8. What are you main concerns?

.....

9. Would you like to do a walkabout of the East City?

Yes	No

10. Would you like to contribute to developing the East City Design Initiative outside of the areas indicated above (if yes please pass your details to.....)

Yes	No

Please complete this survey today and hand in. The Survey is also available electronically.