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Building entrepreneurial universities in a specific culture—barriers and opportunities

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- *Globally universities are facing an increasingly dynamic environment, and many have responded through becoming more entrepreneurial. European and US universities have adopted new governance structures, diversified their funding, changed their organisational structures and adopted an entrepreneurial culture to drive more innovative behaviour. Using multiple case studies, based on semi-structured interviews, the barriers and opportunities for entrepreneurialism in five UAE universities are identified. UAE universities possess inherent qualities necessary for entrepreneurialism, including steerage, concern for economic surplus plus their performance driven environment allows quick response to the dynamic external environment; however, there are certain areas that require further development such as developing a culture of innovation, incentivising Universities to take risks as well as gaining appropriate support from the State. Based on the results of this work a change agenda has been chartered to further support and develop entrepreneurial universities in the Middle Eastern environment.*

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Introduction

The higher education sector has undergone considerable changes in the last two decades, and this has been adequately debated in current literature. The changes have led many universities to adjust their behaviour and resulted in the emergence of the concept of entrepreneurialism (Kirby, 2005a). This is, effectively, an organisation's strategic adaptability to successfully exploit opportunities in a dynamic environment (Dean & Thibodeaux, 1994). Entrepreneurial universities are more creative and innovative and are prepared to take risks in addition to strategically aligning their structure to enable quick response to market needs. The concept was adopted by several universities in Europe as documented by Clark (2004).

Entrepreneurialism in higher education involves university-industry collaboration to commercialise research in the form of Knowledge Transfer (KT) (Etzkowitz, 2003; Etzkowitz, 2004; Gibbons *et al.*, 1994) to support economic development (Audretsch & Lehmann, 2005; Ferlie, Musselin, & Andresani,

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2008; Schulte, 2004; Shane, 2004). The concept is not limited to faculty members involved in the commercialisation of research (Chrisman, Hynes, & Fraser, 1995) but encompasses creativity in the teaching arena as well (Fiet, 2001; Kirby, 2005b; Vesper & Gartner, 1997). However, in this pursuit there are concerns regarding the dilution of the fundamental mission and integrity of universities (Slaughter & Leslie, 1997). These include the neglect of the academic heartland (Marginson & Considine, 2000), promotion of '*corporate style management*' (Deem, 2001) and negligence of basic research (Van der Wende & Huisman, 2003). Some of these concerns are warranted; however, in many cases, universities have little choice but to adapt to changing market conditions and the steering mechanisms of the State (Etzkowitz, 2003; Ferlie *et al.*, 2008; Pettigrew, 2003).

The concept of entrepreneurial universities has predominantly been developed and implemented in the developed world. Case studies provided by Burton Clark examine five universities in Europe implementing the entrepreneurial agenda. This article focuses on implementation in the Middle East context where universities face different challenges. We seek to understand whether this concept is relevant in the Middle East with its specific facilitators and barriers. The UAE (United Arab Emirates) was chosen for this case study as not only are there different types of higher education institutions, (public, private and international branch campuses); the UAE also has the vision to successfully develop its knowledge economy. This paper draws on empirical results from a study covering five universities of different types in the UAE. It assesses the relevance of entrepreneurialism and then explores the barriers and opportunities in this specific culture. The context, in the form of drivers, is explained in the beginning before presenting the concept of entrepreneurialism in universities. Policy implications are drawn for both Universities and the State.

Drivers of entrepreneurialism in the UAE

Several factors have led to changes in steering (governance) and funding mechanisms with the most prominent being fiscal tightening (Chrisman *et al.*, 1995; Keast, 1995), the massification of higher education (Fiet, 2001) as well as market-based steering (Fuller, 2003), coupled with the desire to develop a knowledge economy (Etzkowitz, Webster, & Gebhardt, 2000). Under the influence of neo-liberal ideology, governments in the developed world have adopted market-based steering mechanisms with the aim of making universities efficient and effective (Ferlie *et al.*, 2008). The purpose being, that a market-based model encourages universities to become more competitive, creative, innovative and entrepreneurial. Sensing the opportunity provided by the market-based steering model, some universities have adopted an entrepreneurial spirit while others have merely reluctantly submitted to it.

The UAE Government wants to transform its economy from investment-led growth to innovation-led growth thereby reducing dependence on oil income (UAE-Government, 2013). It is also at the forefront of establishing itself as an academic hub for the MENA region through attracting international branch campuses, and high calibre faculty members and students from around the world. On the back of years of sustained oil prices, the UAE's finances remain stable, and there has been no pressure to cut back on spending. However, as is evident in recent months oil prices might not be sustainable (Sharma, 2013) to support long-term future spending on various social programmes such as education, housing, healthcare and social development (Murtada, 2012). Moreover, the higher education sector in the UAE is predominantly private, where universities compete in the marketplace for funding and student demand drives universities to be innovative and creative in what has become a highly competitive market. Massification of higher education is putting additional pressure on the capacity of public institutions forcing many national students to seek admissions in fee paying higher education institutions (Swan, 2011). Public universities are also expected to play a greater role by developing specific research profiles and using them for their

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ongoing economic development. In many European countries, the State has used steering and funding policies to push university involvement in KT/KE (Knowledge Transfer and Knowledge Exchange). However, the UAE Governments preoccupation with the training of nationals has resulted in a steering and funding mechanism geared towards teaching.

The State uses a market route for private universities but does not get involved in governance and management. With public universities, the State maintains tight control over the universities but provides generous funding. Dubai has established free zones, primarily, to attract International Branch Campuses (IBCs). These are licenced by the Knowledge and Human Development Authority (KHDA), while quality control is undertaken by UAQIB (University Quality Assurance International Board). IBCs enjoy substantial autonomy and broadly follow the 'Self-governance' model (Capano, 2011). On the other hand, with less autonomy, and with federal government making appointments to senior leadership positions, controlling programme offerings and setting accountability measures; public universities broadly follow the 'hierarchy' model (Capano, 2011).

Use of the market model was helpful in tackling the massification of higher education; however, quality may need improvement (Bhayani, 2010; Bhayani, 2013; Ghabra & Arnold, 2007). Gulf Countries even after expenditure of a considerable sum on higher education are lagging far behind their western counterparts in the gross enrolment ratio (GER) and research (WEF, 2012). State-funded universities in Europe have displayed more entrepreneurialism compared to private ones (Shattock, 2009) because of the funding and focus on research. Private universities on the other hand are still dependent on tuition income. In order for entrepreneurialism to thrive, the State needs to facilitate teaching as well as research in line with the social contract discussed earlier. T1 **Table 1** provides a contextual summary of the drivers in the UAE.

Table 1. Contextural summary of the drivers in the UAE

Drivers relevant in UAE context	Drivers less relevant in UAE context
Diversification of funding base—private universities and IBCs	Diversification of funding base—public universities
Market-based steering—private universities and IBC's	Market-based steering—public universities
Transformation to the knowledge economy	Externalities
Student as customer	Massification of higher education
	Demands from industry
	New education providers
	Austerity measures

Roadmap adopted by entrepreneurial universities

Entrepreneurial universities have instituted several changes in order to reach this status. These changes include the development of four key attributes: (1) Management Style and Organisation Structure, (2) Teaching and Research, (3) State Facilitation and (4) Organisation Culture.

Management style and organisation structure

One of the major changes instituted by entrepreneurial universities involves adapting the steerage of the university to enable quick reaction to dynamic changes in the environment (Clark, 1998; Slaughter & Leslie, 1997). The use of strategic management tools to remain competitive in the market place (O'Shea, Chugh, & Allen, 2008) and the creation of academic and support structures termed as *expanded development periphery* (Clark, 1998) enables knowledge transfer through university–industry collaboration (Etzkowitz, 2004; Schulte, 2004). These universities have concern for financial viability (Davies, 2001) and have diversified their funding base (Clark, 1998).

As a result of entrepreneurialism, the governance structures have undergone substantial changes

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which include steerage, strategizing human resources management, adoption of transformational leadership style and the use of strategic management tools. A strengthened governing core with the responsibility to set direction enhances responsiveness and is an essential feature of an entrepreneurial university (Clark, 1998; Etzkowitz & Leydesdorff, 2000; Powers & McDougall, 2005). It is accompanied by a devolved management structure of self-motivated and empowered (Clark, 2003) Department Heads, and/or Deans, who manage resource allocation and business development within Strategic Business Units (SBUs) (Davies, 2001).

Changes in governance structure from the collegial to the enterprise model, as discussed above, have brought into sharp focus the role of the leadership in actively steering the university (Bolden, Petrov, & Gosling, 2009). However, there are concerns in some Higher Education Institutes (HEIs) in the United Kingdom (UK) for example, that where accountability shifts from the individual to the group the leadership in universities becomes dislocated, disengaged and dysfunctional (Bolden *et al.*, 2009). In an entrepreneurial university achievement of the vision is of central importance; a dissipated leadership lacking clear goals would be a liability. Academics have traditionally valued collegiality and consensual decision-making (Bellamy, Morley, & Watty, 2003), while entrepreneurial organisations value leadership in decision making reducing the gestation period between an idea and its commercialisation (Beise & Licht, 1996). In the traditional model, department heads, devoid of authority and incentives (Bryman, 2007), are unable to make decisions. An empowered devolved structure aligned in vision is therefore necessary to react quickly and with effectiveness.

Entrepreneurial universities grappling with change need transformational leaders to steer the universities (Dill & Sporn, 1995; Sporn, 2001; Yokoyama, 2006) and implement constant change (Bass, 1999) (Ramsden, 1998). Transformational leaders possess certain intrinsic qualities including knowledge, honesty and charisma (Bolden *et al.*, 2009). They tend to implement change using a focused and predetermined agenda (Kouzes & Posner, 2003). These leaders need a suite of skills to convince faculty and staff of their entrepreneurial mission (Yokoyama, 2006). One of the tactics used by leaders is to create a strategic management group with a few ardent supporters (Rindfleish, 2003). This team acts similarly to Vice President's (VPs) with functional portfolios covering research and development, internationalisation, corporate affairs etc. (Davies, 2001). This group then institutes change by convincing other stakeholders (Kezar & Eckel, 2002). However, success depends on the framework including senior leadership support (people in positional power), collaborative leadership (involvement of individuals throughout the campus), robust design (vision and mission) and visible action (staff development) (Kezar & Eckel, 2002; Yokoyama, 2006).

(1) Teaching and Research: Departments are increasingly treated as profit centres and expected to obtain their own funding and be self-sufficient. This is primarily achieved through attracting research dollars or increasing student numbers. Universities support these SBUs by instituting development periphery to handle non-core activities such as: market assessments, sourcing funding, interaction with industry and the State, preparation of bids, thereby allowing academics to concentrate on their strengths (Matkin, 1997). These departments serve as a bridge for knowledge transfer, commercialisation and incubation activities (Laukkanen, 2003; Siegel & Phan, 2006), thereby driving economic growth (Feldman & Desrochers, 2003; Keast, 1995). In many circumstances these SBUs take the form of interdisciplinary research centres bringing knowledge from across the university to deliver application oriented outputs to industry (Marginson, 2000). Internationalisation, as part of entrepreneurialism, has been adopted either to augment budgets (Davies,

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2001) or, for the prestige of having an international profile (Johnston & Edelstein, 1993). Internationalisation efforts have resulted in universities seeking international accreditations such as AACSB, ABET and EQUIS either to gain prestige and status or, to give an indication of quality. The empowered SBU structure enables academic departments to influence their own direction and, when given intrinsic and extrinsic rewards, allows the retention of surpluses and allocation of resources based on profit potential (Shattock, 2009). Faculties and departments with low student numbers or lack of research income suffer closure.

(2) State Facilitation of Entrepreneurial activities: The State steering and funding mechanism is a major driver for change in higher education with the State a major supporter of teaching and research. Traditionally, public universities were managed through bureaucratic governance with the State appointing top leadership, prescribing funding and laying down resources allocating rules with nominal accountability and evaluation. However, the State is slowly allowing universities to govern themselves and is steering the sector from a distance (Ferlie *et al.*, 2008; Van Vught, 1988). The degree of autonomy varies however from country to country. Entrepreneurial universities are enjoying some independence from the State (Etzkowitz, 2004) and at the same time are sharing academic, physical and financial resources with other HEIs (Van Vught, 1989). Businesses in the UAE are also investing more in teaching and research and thereby supporting the entrepreneurial missions of the universities.

As part of the 'New Public Management' policy, governments in some countries have allowed greater freedom to universities but have increased expectations in a bid to increase efficiency and effectiveness (Ferlie *et al.*, 2008). Expectations include using teaching and research functions for the development of a knowledge society (Delanty, 2001; Wong, Ho, & Singh, 2007) through being creative and innovative. Towards this end, universities receive support in the form of research grants and support programmes. In the UK, for example, Higher Education Funding Council of England (HEFCE) allocates substantial funding for research based on the quality and cost of the research.As is evident from above, universities are expected to work collaboratively within the wider society (Carnoy, 1994) and use innovative research to start up new ventures and generate employment (Laukkanen, 2003), thereby contributing to overall economic development (Laukkanen, 2003; Wu, 2007).

(3) Organisational Culture: The changes mentioned above are implemented under the shadow of an entrepreneurial culture (Jacob, Lundqvist, & Hellsmark, 2003; Sporn, 2001) involving significant change in the management styles at universities (Dill & Sporn, 1995; Grigg, 1994; O'Shea *et al.*, 2008). Closer integration of the independent units (Clark, 1998; Dill & Sporn, 1995), goal alignment of both administrators and faculty members (Kotter & Heskett, 1992), customer orientation (Marginson, 2000; Ritzer, 2002) and leadership which endeavours, through continuous encouragement of individuals to try new ventures and create informal networks (Kotter & Heskett, 1992), spread learning of entrepreneurial initiatives across the organisation. Organisational culture is key to instituting creativity and innovation capabilities amongst faculty and staff.

It can be seen from the above that most of the studies cited have been undertaken in either US or Europe, and therefore it might be helpful to study the concept of entrepreneurial universities in a different context. As outlined in below section, the study is conducted in specific Middle Eastern context characterised by centralized decision making, lack of collegiality, a nascent higher education

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sector and excessive reliance on State funding. These characteristics contribute to a different perspective to the study of entrepreneurialism as indicted below.

Approach and methodology

The basic assumption in this research is that there is a strong link between an organisation and its environment. The concept of entrepreneurialism in universities therefore needs to be studied within a specific context. In addition to discussing the level of entrepreneurial activity in universities, 21 respondents were asked to assess the relevance of the entrepreneurial university in the UAE context. For data triangulation purposes, the respondents consisted of 10 faculty members (of which six were research active), five administrative leaders, five academic leaders and one State respondent (Denzin, 1970).

The sample consisted of one public HEI (there are only three federal ones), two private HEIs (69 in total) and two IBCs (37 in total) consisting of both research and teaching-focused HEIs. The interview questions followed a protocol based on key attributes (outlined above), and interviews were conducted at the premises of the case study institutions with length of interviews varying from 40 to 75 min. The names of both, universities and officials, have been changed to maintain confidentiality.

Literature on entrepreneurialism has generally adopted positivist epistemology using either large-scale surveys or longitudinal case studies (Gartner & Birley, 2002; Hindle, 2004; Zahra, Harry, & Per, 2006). However, several other works on this topic (Clark, 1998; Davies, 2001; Shattock, 2009) have adopted an interpretivist stance similar to this study based on five comparative case studies covering State universities, private universities and branch campuses. This work attempts to understand the phenomena from different angles and perspectives (Creswell, 2003; Herriott & Firestone, 1983; Merriam, 1988; Stake, 1995; Yin, 2003). As universities make up a substantial portion of the non-profit sector, it is important to understand the implications of entrepreneurialism for policy, strategy and also in practice.

The multiple case studies also help us in understanding differences within and between the cases. Some universities show more entrepreneurial initiatives in one area while others display it in different areas. As this involves comparisons between the case studies, it is important to carefully select the cases to allow the researcher to highlight similarities across cases and also present dissimilarities of the results based on theory (Yin, 2003). The design used in this case study is instrumental (Stake, 1995) as the intention was to gain understanding of the theory in the UAE context. Cases play a supportive role in helping us understand the phenomenon of entrepreneurialism in the UAE.

Relevance of the concept barriers and opportunities in the UAE context

The fundamental question of the relevance of entrepreneurialism in the UAE context received an overwhelmingly positive response. Almost all respondents felt the concept is relevant for the development of a knowledge economy in the UAE and indeed in the GCC. Higher education funds need to be spent encouraging knowledge generation and transfer. However, respondents felt that there are significant barriers to implementation in the UAE.

Respondents were asked to identify factors that either facilitate or act as barriers to implementation. Management style (29%) and State facilitation (33%) were identified as major barriers to entrepreneurship in universities in the UAE. **Table 2** provides a summary from all respondents of the barriers to entrepreneurialism in the UAE, while **Table 3** summarises the facilitators. These will be discussed under four distinct headings:

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Table 2. Barriers to entrepreneurialism in UAE universities

	Overall	Public	Private	IBC
Barriers	%	%	%	%
Management style and org. structure	29	29	19	19
Corporate management as opposed to collegial structure	13	10	5	10
Centralisation of authority at the top	5	5	0	5
Leadership—lack of vision	3	10	0	0
Management style that prescribes rather than have communications	8	5	14	5
	29	29	19	19
Teaching and research	18	19	19	29
Too much focus on teaching	13	14	14	19
Lack of research centres	6	5	5	10
	18	19	19	29
State facilitation of entrepreneurialism	33	24	43	33
Accreditation requirements	3	0	0	10
Lack of research funding	15	19	24	10
Lack of state support	8	0	5	5
Unsupportive country/ business environment	7	5	14	10
	33	24	43	33
Organisation culture	20	29	19	19
Resistance to change	5	10	0	5
Organisation culture that does not foster creativity and innovations	7	5	5	14
Human resource strategy	2	5	0	0
Diversification of funding and too much reliance on one source of funding either government or tuition	6	10	14	0

Table 3. Facilitators to entrepreneurialism in UAE

	%	Public	Private	IBC
Management style and org. structure	70	71	62	76
Transformational leadership	22	19	24	24
Less steering from the top	7	5	10	5
Use of strategic planning	10	14	10	10
Resource allocation based on profit potential	16	19	14	19
Governing board with vision	6	5	5	10
Diversification of funding	3	0	0	5
Human resource strategy	4	10	0	5
State facilitation of entrepreneurialism	70	71	62	76
Business environment	9	10	10	5
Organisation culture with emphasis on performance management	21	19	29	19

Management style and organisation structure

The responses of both administrators and faculty members predominantly centred around internal governance issues being causal in hindering progress. Nearly 30% of the respondents felt that management style posed a barrier to taking initiative and thinking out of the box. Faculty respondents expressed concerns in terms of the absence of a collegial style of management and added that the university is managed like a corporation; however, senior leaders amongst respondents justified running their university like a corporation. One senior leader from a private university in Dubai commented:

> *"We don't have any State support therefore we are running the university like a corporation and are focused on revenue maximisation and cost minimisation. This does work for us at least. We don't receive any money from the government or any other body. We are self-funded, so we have to find the ways*"

However, the academic community was found to be highly critical of this style of management. A Dean of one of the private universities explained:

> *"Top-Down management is a key barrier i.e. corporate management. It is autocratic and gets to a point where you expect to be told what to do. That destroys entrepreneurialism. Management tells people to do and this harms creativity and innovation. You have to abide*

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by the official line. As we are here for a long time we have adapted to the culture."

Another academic leader of a public university was critical of this style of management and explained his concerns:

"It is part of the culture in Gulf countries, used to autocracies, to keep decision making at the top. At the top there is a sheikh. If sheikh says something then you do it. It is like president of US who is a chairman of your board. We are trying to institute autonomy but culture here is to do what you are told to do and therefore faculty will not take risks and there will be no creativity."

Lack of collegial decision making was further exacerbated by poor communication where 8% of respondents felt their leadership did not adopt a consultative approach. It is prescriptive rather than participatory. Often there is distinct lack of open communication between faculty, staff and leadership.

Vital to building entrepreneurial universities is leadership which provides vision and guidance. However, in the UAE some respondents, especially from public universities, claim that leadership does not have the vision to grow. Decision making is highly centralised, focused amongst a few in senior roles and, where this leadership team does not see a need to grow, the organisation stagnates.

Effective leadership can help develop entrepreneurs who are self-motivated and empowered to make decisions through implementing a SBU structure which involves faculty and staff. The development of links to industries coupled with support structures in the form of Technology Transfer Offices (TTOs), development offices, international offices, and science parks or incubators could be established. In most of the UAE case study institutions these supportive structures were not in place, and their absence impacts on the commercialisation of research and knowledge transfer which, as has been discussed, is at the heart of entrepreneurial university. A senior leader of a public university commented:

"Our mandate is to teach Emirati students, and we have very limited opportunity to think out of the box and look for international students or diversify our income sources".

Leadership style was identified as a key facilitator of entrepreneurialism by 22% of the respondents with this echoed by many of the interviewees. Leadership can make or break an organisation. Many respondents felt where leadership provided the right guidance and encouragement and pledged support this would significantly facilitate entrepreneurial progress. Where leadership is oblivious the process is most likely to fail.

From the above discussions, it is clear that the style of management and steering within the universities in the UAE is primarily based on a model with little devolvement. Faculty members feel alienated with both steerage and control vested at the top and with many committees merely communicative in nature. While steerage has grasped the setting of priorities and adopted a systematic approach to take advantage of financial opportunities, the impact of these strong entrepreneurial attributes is diluted by a lack of devolvement to faculty and staff who are key to entrepreneurial success. In practice implementation has alienated faculty and staff resulting in a lowering of their productivity (Grigg, 1994), creativity and innovation. Steerage using strategic management tools and accompanied by devolvement of responsibility to relevant faculty is an essential combination required for the future development and success of entrepreneurialism in the UAE.

Teaching and research

Research is at the heart of an entrepreneurial University. Weak research strategy was the biggest area of concern amongst respondents. The entrepreneurial

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drive of universities is centred around making meaningful use of research to develop a knowledge economy (Feldman & Desrochers, 2003). As pointed out earlier, commercialisation of research, technology transfer, regional development and industry collaborations are all key attributes of entrepreneurialism (Etzkowitz & Klofsten, 2005). However, this is the area where HEIs in the UAE have scored the lowest. There was unanimity amongst the respondents that research is under-developed, and this was attributed to an obsession with teaching.

Intellectual property, considered crucial by respondents, was not given importance by the case study institutions, and as a result there are hardly any patents registered by UAE universities. One of the academic leaders explaining the underlying reasons commented that:

> *"The top leadership, business leaders and leadership in government do not see us as a medium to deliver Intellectual Property. They regard us as an educational institution geared to teach. They do not see us as an institution that can be creative. We do not make students creative because here the form of learning is decidedly traditional i.e. group learning and memorisation"*

An excessive focus on teaching has resulted in reliance on one source of income: for private universities, it is tuition fees, and for public universities it is government subsidies. Relying on one source of income is risky (Shattock, 2000). Leadership in the UAE understands this and is working towards diversification of funding sources as explained by one senior leadership respondent:

> *"We are working extremely hard to diversify the funding sources like industrial research money, graduate level fees, philanthropic support, development of endowment because it is extremely crucial for long term future. These are principal avenues that we are pursuing. I see these as useful adjuncts to the appropriate public investments. Private universities can be very successful in pricing their courses appropriately and improve the quality. Private universities can have substantial endowments to make them viable in the long term. This gives them buffer against economic fluctuations and enables them to attract exceptionally high quality students at lower prices than their competitors. This is a long term strategy to maintain quality"*

One of the reasons for the lack of scientific patents might be that half of the students registered in the UAE pursue business-related courses. Science and engineering are not popular areas here. While spin-offs and spinout are rare in the UAE, the faculty members are involved in spillover, and many universities require faculty members to be research-active for appointments and promotions.

State facilitation of entrepreneurial activity

The most significant barrier was the lack of research funding (20%) from both the business community as well as the State. Lack of industry-funded research (13%) and meagre State support (4%) accompanied by country and business environment aggregates to 37%. The university-industry collaboration which is at heart of entrepreneurialism is missing in the UAE; the reason for this was explained by one academic leader at a private university in Dubai:

> *"Industries here are dominated by branches of multinational and most of the operations here are limited to trading, logistics and support. The research is done at headquarters and not done in Dubai".*

Additionally, the lack of government support was highlighted by a senior leader from a public university:

> *"The university has a research centre funded by ADWEA (Abu Dhabi Water and Electricity*

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Authority). It is not something government has encouraged us to do, nor has the government funded us for that. It is not something that is consistent with the strategic vision of the leaders of the country. We initiated the centre, as we believe it's something that is beneficial for the country. I cannot pretend that it is a key driving force for the university. It is an excellent centre to have, but we are struggling to find funding to pay one director half time for the centre. It is not something that nation values".

According to one of the administrative leaders, the environment plays an essential role and this point was echoed by 9% of the respondents,

"To a large extent the environment also determines the level of entrepreneurialism. Environment in UAE is difficult with regards to income generation or entrepreneurship. I have faculty members who made lot of attempts to set up short or executive courses in their area. They could not. You know because of the credit crisis the companies didn't want to spend on training of their staff members" (ADL, IMT).

Critical aspects of change in external governance include autonomy from the State, increased accountability, evaluation based on financial criteria, state incentives and mass higher education (Neave & Van Vught, 1991). The provost of the public university commented:

"As far as this university is concerned, the State does not impede any faculty member to be entrepreneurial nor does it support it. One of the best way to encourage entrepreneurial activity is to have well-funded research agency in the country that would allow researchers to generate new ideas and drive entrepreneurial activity. We don't have the funding agency and therefore we are limited in our capacity to generate new ideas"

Concerning private HEIs and IBCs, the external governance in the UAE is more about licensure, accreditation and quality control. The State does not fund private HEIs or provide any incentives. Respondents from private HEIs feel that the State needs to take the lead and provide incentives, especially for research. There is general agreement that the steering mechanism of the State needs to change in terms of autonomy, incentives, accountability and evaluation. Even the Ministry of Higher Education (MOHE) Commissioner feels that there is a need for change. Autonomy is a contentious issue, and according to Shattock (2009), the universities have seen more regulation, not less. The provost of one of the public universities had the following view:

"The universities have to abide by increasing number of laws and regulations form the State. Reduction in State funding is not matched by increased in autonomy. Ideally it should happen but in reality it does not happen. State retains its control with the help of law and at the same time it decreases funding. What you said was a nice idealised business model but it is not matched with reality." (AL, UAEU).

Autonomy from State regulations has considerable impact as can be seen from the case study institutions. Private universities were able to use this autonomy to recruit students and grow their organisations, but the impact on the research front was limited. On the other hand, public universities face constraints because of bureaucratic control.

Organisational culture

Organisational culture was identified as the top enabler (21%) and was regarded as a key component that encourages risk-taking behaviour, creativity and innovation. Private universities have a much better culture to promote entrepreneurialism. Respondents expressed that a culture of profit leads everyone to focus on goals; however, faculty

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members in private institutions were highly apprehensive of too much of a focus on financial gain.

UAE Universities, because of their focus on financial surplus, are positioned to react quickly to exploit opportunities in the environment. The focus on customer need and performance is enabled through strategic steering, active roles played by governing boards, lesser roles of committees, along with flexible human resources strategies and transformational leadership. These characteristics allow organisations to be responsive and adapt quickly to changes in the environment (Barringer & Bluedorn, 1999; Dean & Thibodeaux, 1994). Apart from strategic adaptability, UAE universities need to develop a culture of creativity, innovation and be prepared to take more risk. Too much control from the top stifles the entrepreneurial drive of Deans and Department Heads. Most of the case study institutions have not empowered nor involved academic heads in allocating resources nor taking operational decisions, devising their own budgets nor retaining and investing surpluses generated by their departments. The organisational culture does not encourage nor incentivise creativity or innovativeness. The fostering of new ideas either requires support from the HEIs or the State. This sentiment was echoed by one of the faculty members who commented:

> *"If the university academics had flexibility they would develop contacts with industry and devote their time to research. But, heavy teaching loads accompanied by little freedom restricts my ability to do anything."*

The Strategic business Unit (SBU) model, discussed earlier and set as part of a performance oriented culture, calls not only for resource allocation based on profit potential and empowerment of department heads, but for a performance-based budgeting system, and the involvement of faculty in the budgeting process (Davies, 2008). UAE universities have strong concern to generate economic surplus and allocate resources based on profit potential. However, some of the respondents expressed concern that academic departments are not involved in budgeting nor are they permitted to retain surpluses. An organisational culture with open communication, frankness and collectively generated solutions can encourage faculty and staff to be more innovative, creative and to take necessary risks (Davies, 2001). Small scale UAE universities can easily create informal relationships amongst members and allow organisational learning and strategic adaptability. Each of the case study institutions placed strong emphasis on market-orientation and performance management. Too much control does not encourage nor allow faculty to come forward and take risks. Rather, faculty have adapted to doing only what they are told. One of the senior academics expressed the difficulties involved in changing the culture and thinking:

> *"Culture is one of the main impediments to change. The humans within the institutions have to adapt and change in order to be entrepreneurial. You cannot be entrepreneurial by policy instruments."*

While steering would allow strategic adaptability micro-management is posing a significant barrier to entrepreneurialism. This coupled with a lack of support structures, limited research funding and meagre investment on the part of HEIs hinders the development of an entrepreneurial culture.

Directions for development

Universities make up a dominant part of the non-profit sector and are key to the development of a knowledge economy. In the UAE leadership, though transformational and empowered, has not been able to achieve considerable success in the transition to an entrepreneurial university culture. The main reason can be attributed to lack of interest amongst alienated faculty. Pursuit of entrepreneurial projects is also hindered by a limited development periphery and a culture of control. The situation has been exacerbated by lack of external research funding

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support. Performance and accountability of faculty and staff are limited to teaching quality and student satisfaction or, to generating a greater number of students. The universities in the UAE have strong potential to become entrepreneurial because of their small size and ability to quickly diffuse entrepreneurial thinking amongst staff. However, appropriate support needs to be created along with academic units that can meaningfully engage with the industry. These changes will benefit the university and help develop a knowledge driven economy. The following points outline a roadmap to implementation of an entrepreneurial culture in the nonprofit sector in general and higher education in particular.

Reorganisation of the university along the lines of Strategic Business Units (SBUs) (Schoemaker, 2012) thereby empowering Department Heads to define strategic objectives, set expansion targets, retain surpluses, re-invest resources, monitor quality and ensure long-term success. Another suggestion would be to achieve competitive advantage through reorganising human resources strategy, attracting, retaining and developing talented research active faculty members through offering competitive pay structures with incentives for research, consulting or third stream income Additional flexibility and performance-oriented rewards will strengthen the attractiveness.

Universities in the UAE could coordinate to establish relevant supporting structures and networks to drive entrepreneurialism such as consultancy offices, international liaison centres, Research Grant Services, Marketing and Industry Relations, Alumni Contact, Professional Development Centres and Business Parks in established geographic knowledge centres such as Academic City and Knowledge Village.

Another suggestion would be to establish interdisciplinary Research centres, targeted at a specific industry that could draw faculty from across the university to carry out innovative and cutting edge research. However, this would require research grants from the government or active participation from industry backed by strong IP laws.

Fostering entrepreneurialism could encompass the delivery of 'Enterprise Education' to enable young people to be creative and start their own businesses (Rae, Matlay, McGowan, & Penaluna, 2014). This could be undertaken by arranging internships and/or working with industry to assign live projects that could benefit both the student and the business entity.

The financial strategy of the entrepreneurial universities could involve devolved budgets and retention of surpluses at departmental level. This would act to better encourage Department Heads and Deans to take initiative and develop entrepreneurial ventures (Schobel & Scholey, 2012). The creation of a sense of empowerment would be an intrinsic motivator and would encourage greater risk taking in the further development of departments. Another aspect of the finance strategy is to have a diversified funding base to avoid dependence on one source of income. Faculty members could be encouraged to pursue consulting assignments with the support of a consulting office accompanied by incentive programmes. Universities could also consider raising revenue from other third stream income sources such as leasing out facilities, lifelong learning and contract teaching. These could be short-term measures in the absence of research funding from the State and industry.

Last but not the least, universities would need to create a culture that actively values creativity, innovation and encourages researchers to take risks (Davies, 2001). Many of the respondents identified the lack of supportive organisational culture as a barrier. A change in culture would entail open and frank discussions across the organisation about the importance of the strategic direction and its impact on survival and/or growth of the university. Where implications are articulated and understood, the leadership could then encourage faculty members to collaborate with external partners, generate extra resources, be financially prudent or search for research or consulting contracts given support from development periphery. Another way to encourage the culture is to relax the structures thereby

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allowing information to flow more freely within the organisation. In addition internal competition for funds and resources could be set up amongst the units with individuals and units demonstrating creativity and innovativeness rewarded (Normative approach).

The change agenda in front of universities ranges from internal re-organisation to changes in core teaching and research activities. The desire of the UAE Government to transform from an investment-based economy to a knowledge-based economy was highlighted earlier. The study identified the pre-dominant role of government in bringing about this transformation. The support required from the State can be summarised as follows:

State funding, with appropriate incentives, could encourage universities to engage in entrepreneurial activities centred around research (Shattock, 2009). The National Research Foundation (NRF), established in 2008, could convince the Government to institute a 'Research Levy' on corporates to fund research. The State can support commercialisation activities by facilitating subsidised incubation village, serving as a platform for collaboration between students, faculty and industry. Start-ups in the incubation village could be supported by venture capital (VC) based on Public Private Partnerships (PPP) which could lend expertise that would be instrumental in the evaluation of proposals. The Khalifa Fund, involved in funding start-ups, has limited disbursements for UAE nationals. In addition, the government could support KT/KE through development of an intellectual property (IP) framework. The UAE, a signatory to the WTO, has laws to protect IP but needs to provide the relevant support to faculty and students regarding its appropriate use, registration and enforcement.

The UAE Government could create a competitive research framework, similar to REF (Research Excellence Framework) in the United Kingdom, through providing grants to universities based on the publications of research in international refereed journals. This would facilitate quality research and the recruitment of research-active faculty.

Another measure worth considering is for government departments to initiate knowledge exchange projects to encourage industry players and academics to come together and develop creative ideas in key sectors such as health, information technology, biotechnology and engineering. There are many such examples in the western world such as; The Creative Exchange (http://thecreativeexchange.org) in the United Kingdom or ERRIN (http://www.errin.eu/en/) in Europe. The State could sponsor PhD scholarships along the above themes.

Internationalisation is now recognised as an essential part of the higher education strategy with the State providing active support for initiatives (Byun & Kim, 2011) such as the British Council in the United Kingdom, 'Higher Education Internationalisation Strategy', framed by the federal government outlining support for internationalisation, and student exchange with study abroad as well as faculty exchange all of which would help foster internationalisation. As part of internationalisation effort, government can institute liberalised visa regime to attract and retain talent by allowing free movement of faculty on a short term basis as well as long-term contracts. In order to recruit and retain talent, Bahrain and Saudi Arabia have recently changed their laws to allow skilled and qualified professionals to remain in the country once they have completed five years of continuous residency. This ensures the stability of the faculty and long-term engagement with HEIs. Quick movement of academics and scholars could be facilitated by a new short term visa enabling visiting faculty and removing barriers to research collaboration.

One of the key functions of the State is to provide oversight of the higher education institutions operating in the country. Granting internal autonomy to public universities could facilitate entrepreneurialism (Shattock, 2009). The State could participate in joint strategic planning and agree on KPIs (Key Performance Indicators) for the public universities

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giving them operational flexibility within the domain of the strategy.

Another suggestion is for the State to actively promote entrepreneurialism through providing enterprise education training (similar to http://www.lfhe.ac.uk/) for leaders and faculty members via semi-government institutions such as The Dubai School of Governance or, Abu Dhabi Educational Institute. Continuous promotion of enterprise education via workshops, seminars, conferences and competitions would make the idea popular amongst the UAE academic and business community.

Funding policy needs to be based on measureable indicators covering teaching, research and knowledge transfer. Private universities in the UAE, devoid of government funding, could be supported by pump-priming grants for research and KTP (Knowledge Transfer Partnerships) with industry projects. A special fund to encourage universities to diversify their funding could be set-up on the lines of HEIF (Higher Education Innovation Fund) in the UK. In this example, the disbursement is dependent upon the progress shown by universities in collaborating with industry in areas like income from contract research, income from consulting, income from non-credit bearing programmes, income from IP, SME income and income from knowledge transfer. This would encourage universities to engage with industry and develop meaningful partnerships.

Conclusions

The entrepreneurialism discussion in this paper on is a continuation of an emerging topic in which Anglo-Saxon ideas, of the non-profit sector including universities would become productive if not self-sufficient, dominate. Directions for future discussion include more active assistance of universities in the specific context of the Middle East to adopt a more proactive stance towards entrepreneurialism. This could be facilitated through a culture of innovation and risk underwritten through funding and infrastructural support from the State.

Limitations and directions for further study

The study under consideration faced some limitations because of the selective sample of leaders of HEIs and senior managers from HEIs. It might, therefore, not represent the viewpoints of other leaders or lower level staff. However, the sample so selected is highly representative owing to the inclusion of respondents from public and private campuses as well as branch campuses and the State.

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Appendix 1. Brief profile of case study institutions

(1) Public university
The university has nine faculties, with governance structure predominantly state-controlled. All top appointments managed by the state. Strategy, as well, is decided at the top. Faculty appointments are independent and carried out predominantly by academic departments. It has over 12 000 students and 650 faculty members. Most of the students are Emirati national students who are granted 100% scholarships to pursue undergraduate education. All students pay for their own postgraduate studies. Ninety-five per cent (95%) of the university's revenue comes from state funding and the rest from graduate fee-paying programmes. The university, with its generous pay package, is able to attract quality international faculty. The university encourages research and allows faculty members to submit research proposals. However, there is a paucity of proposals and very stringent requirements, resulting in very few research projects being approved. There are few research centres to encourage cross-disciplinary research. Faculty promotions are based on their research-activeness and publications in peer-reviewed journals.

(2) Private university no 1
This is a semi-government (private) university located in the heart of Dubai. It has two colleges, i.e. business and information technology. The university is managed by a Board of Trustees who decides on senior appointments and the university's strategy. The university has more than 1200 students with the majority in the College of Business. It has a healthy student–faculty ratio of 20:1. With fees of AED 33 000 per annum, it is one of the most competitively priced programmes in the UAE. Faculty members are required to engage in research and all faculty members are expected to publish in refereed journals. Appointments and promotions are based on research publications. The main source of funding for the university is tuition fees, amounting to 95% of the revenue. The remaining 5% comes from continuing professional development programmes and other third mission activities.

(3) Private university no 2
The university is privately owned with prominent members of the royal family as investors or board members. The governance structure includes the chancellor, appointed directly by the Board and the Board of Directors takes an active interest in managing the day-to-day affairs. The university has a large campus on and a student population of over 3000. It has three colleges that include a business school, an engineering school and the Humanities College and served by more than 80 faculty members.
University actively recruits international students and participates in educational exhibitions. It provides several services for international students, including visa sponsorships. However, its recruitment of international students has not shown positive results. Most of university's revenue is derived from tuition fees. It has an active CPD programme group that contributes 5% to the overall budget.

(4) IBC 1
It is an IBC from the south and was therefore selected to give a different perspective on entrepreneurialism. It is based in a free zone in Dubai and as per the free zone regulations; it is not required to seek accreditation from the MOHE. The university is privately owned in home country, and the governance structure is investor-oriented with deans and directors directly appointed by the Board. The Board also takes an active interest in the strategic planning and management of the University. The university has a massive campus in DIAC (Dubai International Academic City) with student housing facilities. It has over 750 students and a strong industry interface. It has a very strong market-

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facing structure in the form of placement cells, which maintain close contacts with industry to place its students. The university is predominantly a teaching institution, like other HEIs in the UAE. Faculty members are encouraged to pursue research and conference presentations are funded.

(5) IBC 2
The university is from the developed world and operates in DIAC (free zone). It is a non-profit organisation with a strong international focus. The Dubai campus is strategically managed by the home campus. The head of the campus is appointed by the home campus. It has a student population of more than 3000 and has four faculties in Dubai. It is one of the most successful IBCs in Dubai in terms of student numbers. The fees are comparable to the middle-end of the market, ranging from AED 39 000 to AED 45 000. It has an open policy regarding student admissions and has a strong and effective student recruitment office.

Most of the faculties are teaching fellows, and there are no requirements to publish in journals. There are no research centres at the Dubai campus and therefore no cross-disciplinary research.

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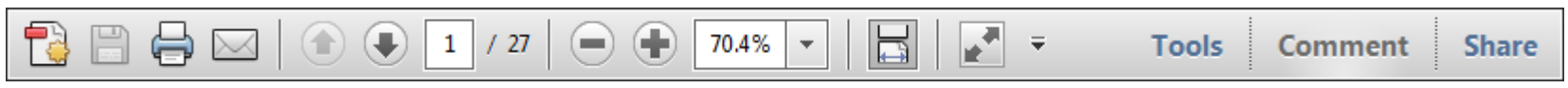
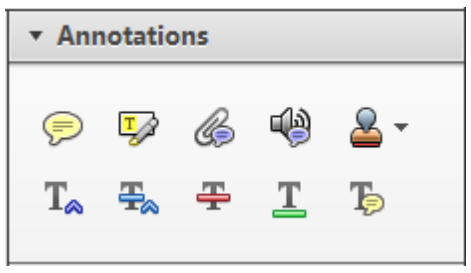


This will open up a panel down the right side of the document. The majority of tools you will use for annotating your proof will be in the Annotations section, pictured opposite. We've picked out some of these tools below:

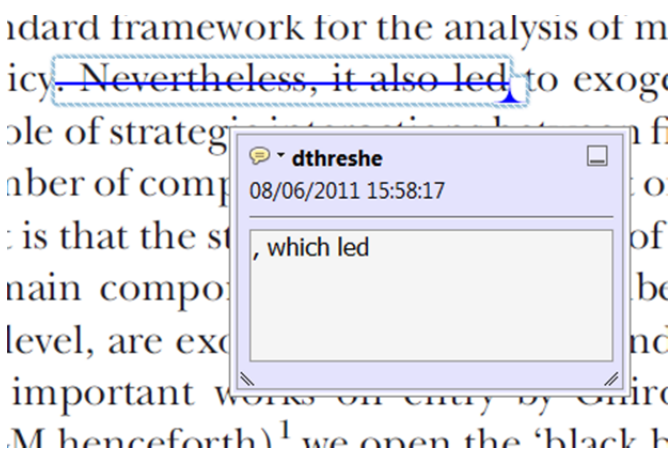


1. Replace (Ins) Tool – for replacing text.

Strikes a line through text and opens up a text box where replacement text can be entered.

How to use it

- Highlight a word or sentence.
- Click on the Replace (Ins) icon in the Annotations section.
- Type the replacement text into the blue box that appears.

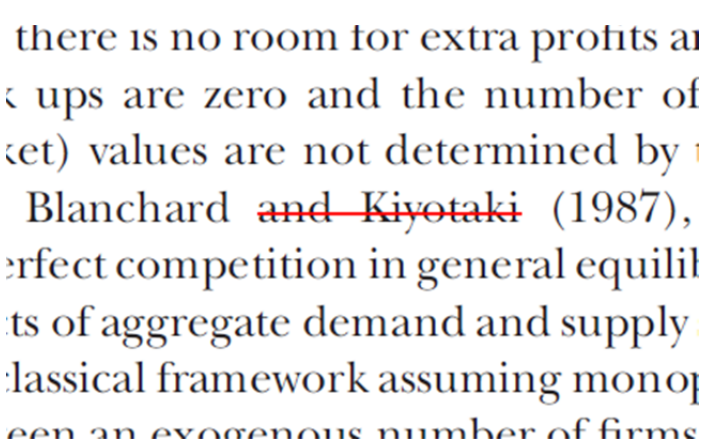


2. Strikethrough (Del) Tool – for deleting text.

Strikes a red line through text that is to be deleted.

How to use it

- Highlight a word or sentence.
- Click on the Strikethrough (Del) icon in the Annotations section.

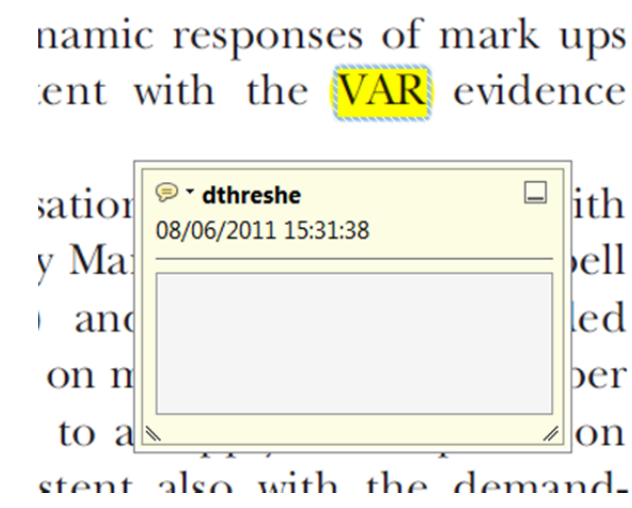


3. Add note to text Tool – for highlighting a section to be changed to bold or italic.

Highlights text in yellow and opens up a text box where comments can be entered.

How to use it

- Highlight the relevant section of text.
- Click on the Add note to text icon in the Annotations section.
- Type instruction on what should be changed regarding the text into the yellow box that appears.

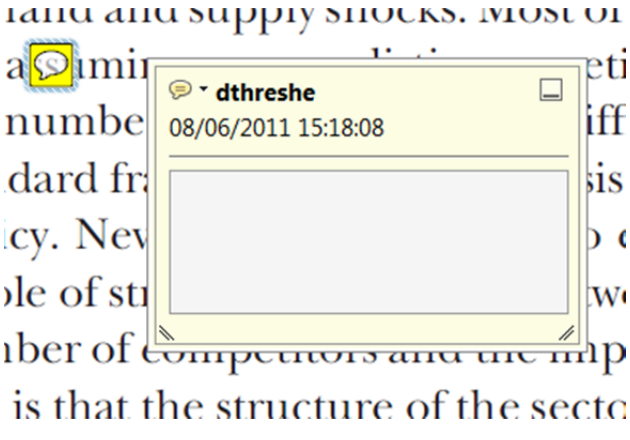


4. Add sticky note Tool – for making notes at specific points in the text.

Marks a point in the proof where a comment needs to be highlighted.

How to use it

- Click on the Add sticky note icon in the Annotations section.
- Click at the point in the proof where the comment should be inserted.
- Type the comment into the yellow box that appears.



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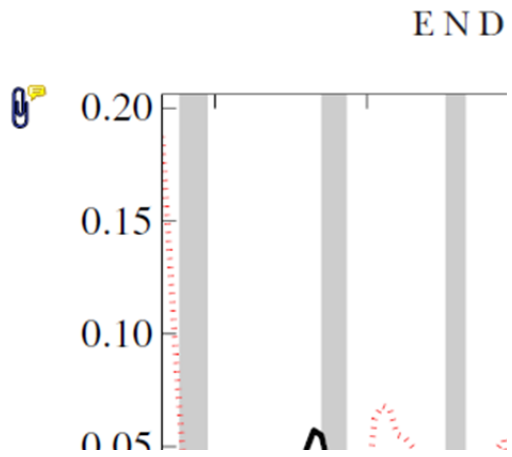
USING e-ANNOTATION TOOLS FOR ELECTRONIC PROOF CORRECTION

5. Attach File Tool – for inserting large amounts of text or replacement figures.

Inserts an icon linking to the attached file in the appropriate pace in the text.

How to use it

- Click on the Attach File icon in the Annotations section.
- Click on the proof to where you'd like the attached file to be linked.
- Select the file to be attached from your computer or network.
- Select the colour and type of icon that will appear in the proof. Click OK.

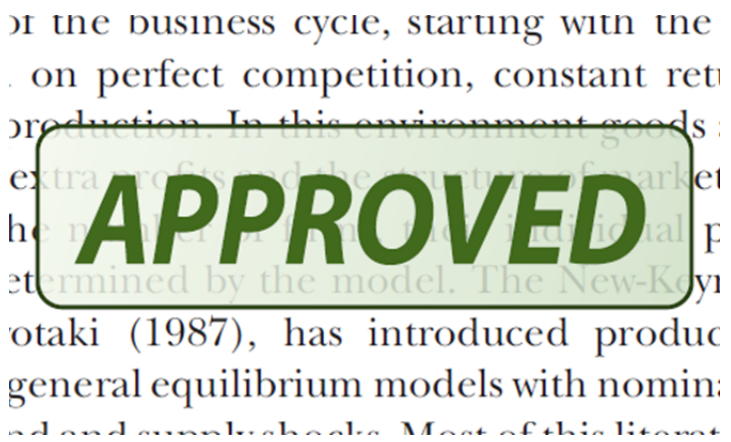


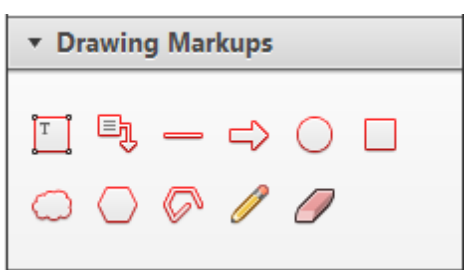
6. Add stamp Tool – for approving a proof if no corrections are required.

Inserts a selected stamp onto an appropriate place in the proof.

How to use it

- Click on the Add stamp icon in the Annotations section.
- Select the stamp you want to use. (The Approved stamp is usually available directly in the menu that appears).
- Click on the proof where you'd like the stamp to appear. (Where a proof is to be approved as it is, this would normally be on the first page).



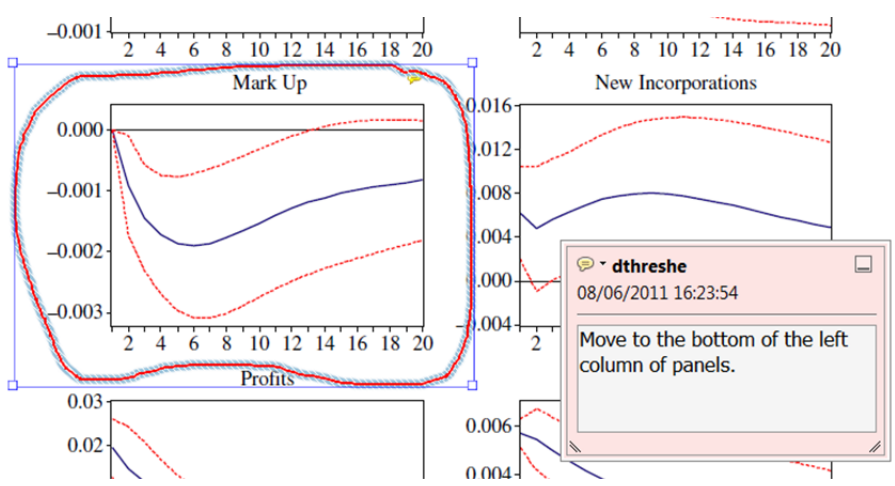


7. Drawing Markups Tools – for drawing shapes, lines and freeform annotations on proofs and commenting on these marks.

Allows shapes, lines and freeform annotations to be drawn on proofs and for comment to be made on these marks..

How to use it

- Click on one of the shapes in the Drawing Markups section.
- Click on the proof at the relevant point and draw the selected shape with the cursor.
- To add a comment to the drawn shape, move the cursor over the shape until an arrowhead appears.
- Double click on the shape and type any text in the red box that appears.



For further information on how to annotate proofs, click on the Help menu to reveal a list of further options: